

K·R·W

Service Station Equipment

for
FORD DEALERS



K. R. WILSON

10-16 Lock Street

Buffalo, N. Y., U. S. A.

Export Department
126 Liberty St., New York

West Coast Branch
647 Mateo St., Los Angeles



1 9 3 1 - 3 2 C A T A L O G

*New
Tools*



*New
Prices*

THE KEY TO PROFITS

In this Catalog is shown the complete line of K R W Tools and Equipment. In many instances the prices are much lower than formerly. Many new tools and devices are shown for the first time. Herein also will be found important and valuable information covering the use of these tools. No time, effort nor expense has been spared in compiling this Catalog to make it the most complete and helpful book of its kind ever published. To the alert dealer and service man it should prove to be the key to a better and more profitable business.



K . R . WILSON
10-16 LOCK STREET
BUFFALO, N.Y. U.S.A.

Export Department, 126 Liberty Street, New York

West Coast Branch, 647 Mateo Street, Los Angeles



15
Years of

SUCCESS



K. R. WILSON,
Founder and
Sole Owner.

Member S. A. E.

PAST

1916 MY automobile experience dates back to the very beginning of the steam and gasoline engine driven automobiles.

In 1907 I built the first modern garage in Western New York. From 1909 to 1911 I was a Ford and Buick dealer. From 1912 to 1915 I manufactured "57 varieties" of accessories for Fords. Soon afterward, through a bad partnership arrangement, I lost every dollar I had accumulated.

But 1916 proved the turning point in my life and the beginning of my present business. With no assets other than plenty of ambition and a determination to make good, I started an independent Ford Service Station. At this time but little service station equipment was available, so that most of the work had to be done by hand. In spite of this handicap, my experience, with the aid of a good machine shop at my disposal, enabled me to turn out good work and build up a wonderful business. I found that many operations could be done better, and in a fraction of the time, if especially designed tools could be had. So I immediately designed the most needed one at that time—the Transmission Bushing Reaming Machine.

PRESENT

Dealers around Buffalo were invited to come in and try it. As a result many of them wanted me to build duplicate machines for them, which I agreed to do. Several of them paid in advance to secure preferential delivery. With this "Capital" the present K. R. Wilson business was founded. From then on the business financed itself. Accumulated profits were used to further expand the business and develop new equipment.

SPACE does not permit me to tell of the struggles with competitors and other obstacles which had to be overcome during the next ten years. However . . . I survived! In 1926 I wrote and published a book which opened the eyes of Ford Service Men and revolutionized repair shop methods. Soon afterwards The Ford Motor Company recognized that my equipment and methods were right. Subsequently arrangements were made whereby Ford Dealers could purchase K R W Shop Equipment direct from the factory, at prices unheard of before.

From time to time jobbers have intimidated manufacturers and suppliers who sold me, in an effort to stop my source of supply; making it necessary for me to manufacture

FUTURE

1931 such equipment in my own plant. In every case I have been able to make such equipment better and cheaper. Today I own and operate the largest plant of its kind in the world—where nearly all K R W Equipment is produced from the raw material to the finished product.

As to the future, I have every confidence that the Automobile Industry will continue to develop and always be the greatest in existence. With this faith in the future, I have invested millions of dollars in factories, machinery and stocks of merchandise to keep pace with this great industry.

ASIDE from the financial remuneration this business has brought me, I feel my greatest reward is the recognition accorded me by the Ford Organization and its Dealers throughout the entire world.

This fact, and my 15 years of successful designing and manufacturing should be sufficient to warrant every confidence in K R W Products.

K. R. Wilson.

"Nothing Succeeds Like Success"



THE K. R. WILSON FACTORIES AT ARCADE, N. Y.

Nearly All K R W Tools and Equipment Are Manufactured In
Our Own Plants, From the Raw Materials to Finished Products



ABOVE—General view of one corner of the machine shop. In this well lighted and ventilated shop the enormous quantities of small parts are machined and finished ready for assembling into K R W products.



ABOVE—Another section of the machine shop, showing some of the many multiple spindle drills at work and piles of castings ready for machining.



LEFT—Still another view of the machine shop, showing some of the automatic machines in operation. The spaciousness of the shop allows generous room for all machines and eliminates crowding and cutting off of proper light.



CIRCLE LEFT—Where every K R W Combination Machine is thoroughly tested on every operation before shipment. Blocks are rebores and rebabbitted, bearings align-reamed and checked with master gauges.



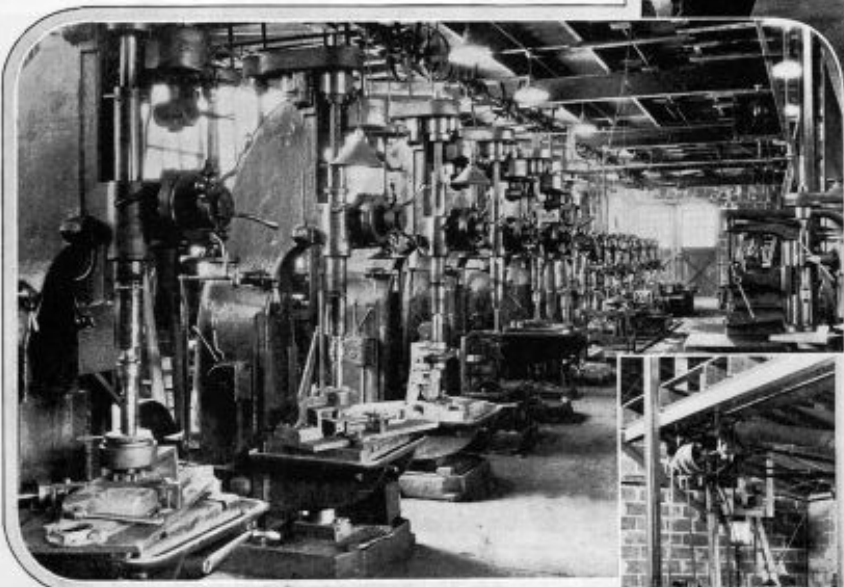
ABOVE—Here we see a portion of the K R W Foundry where all our grey iron and semi-steel castings are made. Two cupolas are used.

MODERN AND ECONOMIC PRODUCTION INSURES K R W PRICES

K R W Plants are well equipped with good machinery. In most cases each machine is set-up with special fixtures and tools for a certain job. This plan insures low production costs and accurate duplication of parts.

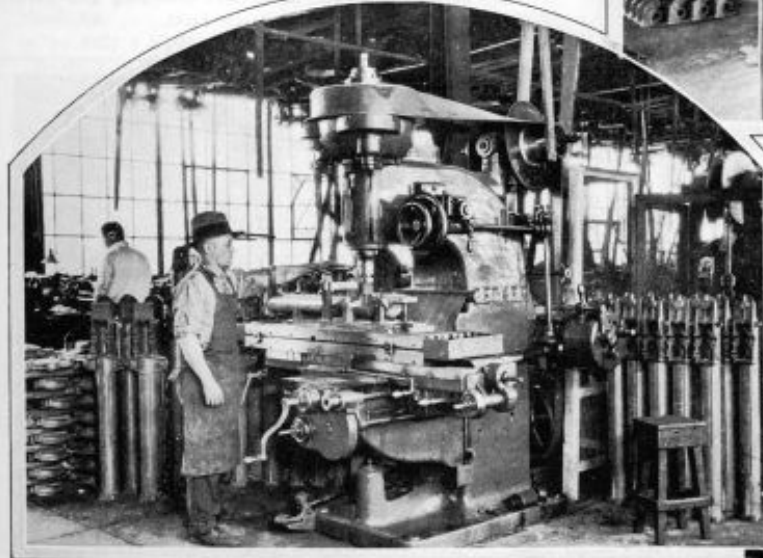
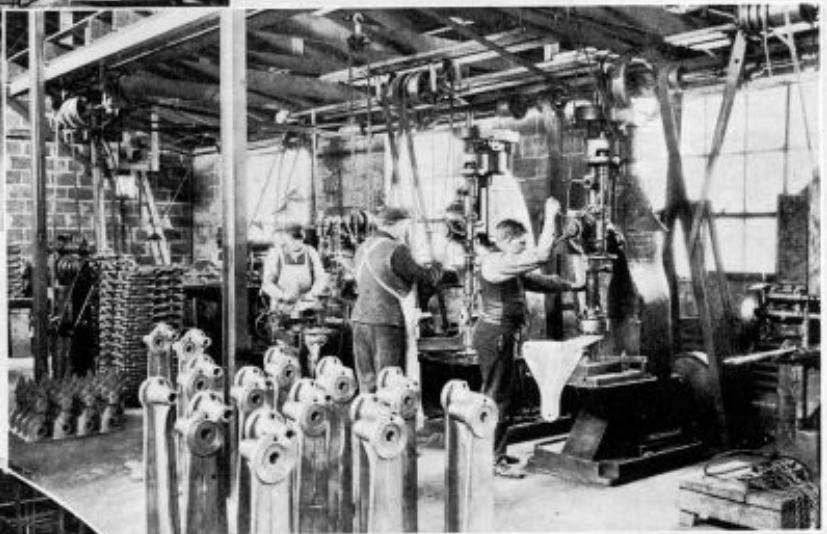


ABOVE—View shows a battery of semi-automatic Turret Lathes producing parts for K R W Hydraulic Jacks.



ABOVE—A battery of single spindle heavy duty drills.

RIGHT—Motor Stand Department. Special machines are used for each operation.



ABOVE—Close up view of one of the many Heavy Duty Milling Machines.

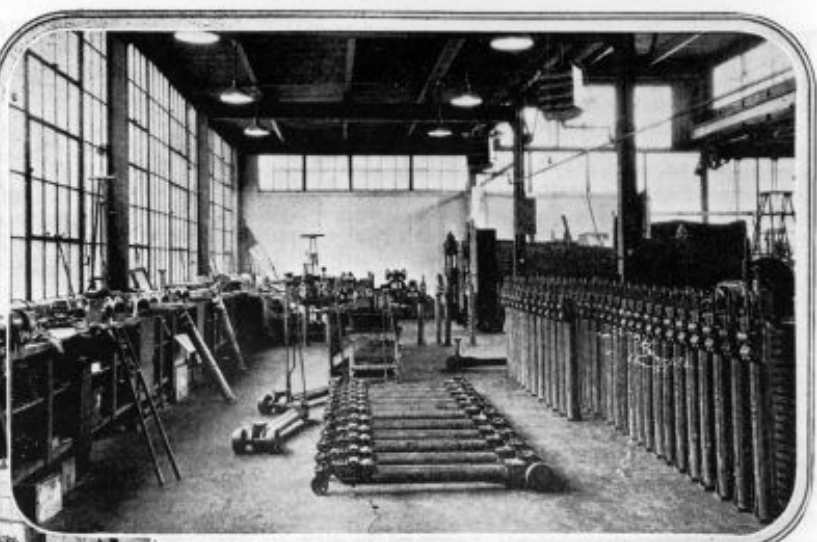
RIGHT—Combination Machine Bed Plates are planed and seasoned, then finished by grinding to insure absolute accuracy.



MORE VIEWS OF THE K R W PLANT AT ARCADE, N. Y.

This Modern Plant Comprises Nine Buildings as shown on the Cover of this Catalog—Each Serving a Special Purpose

Space does not permit us to show many other views of our plant, such as, Box Factory and Lumber Yards, Pattern Shop, Aluminum Foundry, Factory and Engineering offices, and our enormous stocks of equipment ready for shipment to Ford Dealers.



Jack Department—Where every K R W Hydraulic Jack is assembled and thoroughly tested before shipment.



Arbor Press Department—Every K R W Hydraulic Press is assembled, then tested at maximum capacity, overnight, before being knocked down and packed for shipment. The overhead electric crane makes this job easy and cuts labor costs.

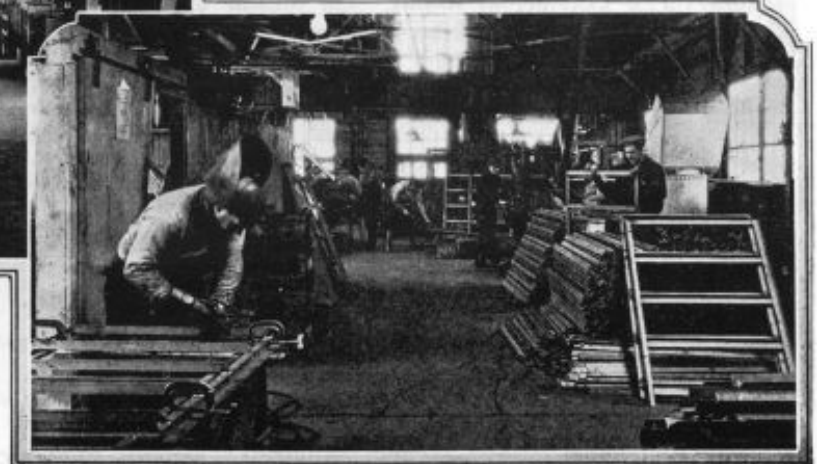


Valve Grinder Department—A little factory by itself. Every machine is hand fitted and thoroughly tested by expert workmen.



ABOVE — K R W Generator Test Stands and Coil Testers are made in this section.

RIGHT—A corner of the Welding Department, showing K R W Battery and Brake Drum Racks being built. All joints are arc welded.



K R W SALES POLICIES AND TERMS

Read this page carefully before ordering any Equipment

THE tools and equipment shown in this catalog are sold only to authorized Ford Dealers, Service Stations and Fleet Owners, at the prices shown—which are strictly net. These low prices are possible because of large volume production in our own plants, where nearly all K R W tools and equipment are manufactured complete from the raw materials to finished products. This together with the fact that K. R. Wilson is the only Manufacturer of Garage Equipment operating as an individual, instead of a corporation—means still further economies, because we have no high salaried executives, no dividends to pay, no interest to meet on additional borrowed capital; we discount every bill and buy all our materials for cash. These savings alone represent a profit for K. R. Wilson before our competitors begin. In addition to all this we have very little advertising and selling expense—Jobbers profits and salesmen's commissions are eliminated. Our arrangements with the Ford Motor Company, which enables authorized Ford Dealers to purchase this equipment at these low prices makes such selling expense (which competitors have) unnecessary. Neither the Ford Motor Company nor any of its representatives receive any profits or commission for this service.

TERMS

On account of the extremely low prices quoted all orders will be shipped C. O. D. or Sight Draft against Bill of Lading, unless cash in full accompanies order—regardless of rating.

Prices quoted are F.O.B. our factory at Arcade, N. Y., unless otherwise specified in this catalog.

See opposite page for Easy Payment Plan.

We reserve the right to improve design and change prices, when necessary, without notice.

GUARANTEE

We Guarantee every item listed in this catalog to be First Class Merchandise and to do exactly what we claim for it when used according to instructions.

We will Repair or Replace (at our option) F.O.B. our factory, any K R W Product proving defective, in Design, Workmanship or Material, through normal use, within one year.

Defective parts to be forwarded to our Factory for inspection, Transportation Prepaid.

In Emergency cases new parts will be forwarded immediately C.O.D. to prevent, as far as possible, any tie-up and loss of profits. On receipt of the Damaged parts, they will be inspected and if found to be defective the amount paid will be refunded.

BEWARE OF IMITATIONS

SEVERAL manufacturers have tried to imitate K R W Tools and equipment, resorting to unethical trade practices and misrepresentation. Others have gone so far as to actually use the numbers and illustrations taken from our circulars and catalogs, now obsolete. Some claim to be Licensed by K. R. Wilson to manufacture same. Samples we have seen are inferior and poor imitations. Dealers who purchase this equipment from such sources are not getting Genuine K R W Tools, with the latest improvements which K. R. Wilson is continually building into such equipment. These improvements keep pace with the developments and changes in the Ford Car. **REMEMBER**—All K R W Equipment is sold direct to Authorized

Ford Dealers, Service Stations and registered Fleet Owners thruout the world. No other manufacturer is licensed to make or sell K R W Equipment.

★ ITEMS WHICH CARRY A STAR ★

This star, shown on various items thruout the catalog, designates essential equipment which the Ford Motor Company expects every Dealer to have.

RETURNED GOODS

If, for any reason, it is necessary to return any K R W tools or equipment

**BE SURE TO OBTAIN OUR PERMISSION
AND SHIPPING INSTRUCTIONS
FIRST!**

Otherwise shipment will be refused. By co-operating with us you will save time and money and eliminate unnecessary correspondence for all concerned. For example: If it is an Air Compressor, Battery Charger, or any other item which we purchase outside, it should be sent direct to the manufacturer whose name appears on it, instead of to us. This avoids delay in handling and reduces transportation costs.

YOU WANT SERVICE! . . . HELP US GIVE IT!

K R W QUALITY

PLEASE do not measure K R W Quality by the low prices. We have many advantages over other manufacturers, as explained in the first paragraph on this page. Therefore, our prices are just naturally lower. In return for the co-operation we receive from the Ford Organization, we agree to sell K R W Products to Ford Dealers on a very narrow margin of profit. Our cost and suggested selling price is always submitted to them before any item is offered for sale. K R W Tools are always built as good as we know how to make them, regardless of cost. The final selling price takes care of itself. In this catalog you will notice many items which have been improved over earlier models—as experience teaches us. A personal visit to our plant, where you may see the various items manufactured complete from the raw pig-iron and steel to the finished product, would amaze you, and the tests through which all important items must pass will convince you that K R W Equipment is not only equal but superior to other makes regardless of price. Naturally some of it goes "hay-wire" just as some good automobiles do. They are not all perfect. However K R W is always ready to make good if any item goes wrong.

And now . . . a word about our "Nockers!" The Guys who, lacking in sportsmanship, go around discounting the quality of K R W Tools. They have even used several prominent organizations to carry on their unscrupulous tactics. In spite of their efforts, however, K. R. Wilson has succeeded. They have been forced to lower their prices on all larger items of equipment, such as Air Compressors, Hydraulic Lifts, Car Washers and dozens of others. Still they cannot compete! See page 100 for comparative prices on important items.

15 years of steady progress, 7 of which has been closely related with the Ford Organization, is your assurance of **COMPLETE SATISFACTION.**

Cable Address
WILFORD BUFFALO
Use Bentley's 5-Letter Code

IMPORTANT

Be sure to read page 87 before ordering electrically operated equipment.

K. R. WILSON — COMMERCIAL CREDIT PLAN

"The Extra Profits That Can Be Made by the Use of
Proper Equipment Should Many Times
Offset the Cost of Financing"

THE K. R. Wilson-Commercial Credit plan has been devised to provide an easy payment plan for the purchase of K R W Service Station equipment by Authorized Ford dealers.

It does not imply that every order can be accepted on a deferred payment basis unless the dealer's financial statement shows that he is entitled to credit.

REQUIREMENTS AND RATES

1. DOWN PAYMENT with order to be not less than 20% of the purchase price F. O. B. Buffalo or any of our factories supplying such equipment.

2. THE NOTE (unpaid balance plus service charge) is payable in either six or twelve equal monthly installments. These installments are payable at the Commercial Credit Co. Branches operating in the territory where the dealer is located. The total charge including interest is 9% of the unpaid balance on a twelve months' transaction and 5% of the unpaid balance on a six months' transaction. The minimum service charge will be \$15.00 and the minimum installment \$10.00.

3. When order is taken for K R W equipment, it should be made in duplicate. The original mailed to K. R. Wilson, Buffalo, N. Y., the duplicate to the nearest Commercial Credit Co. branch along with the Dealers' Financial Statement. If found satisfactory the Commercial Credit Co. branch will advise K. R. Wilson as soon as possible and shipment will be made promptly. It is **IMPORTANT** that both copies of the order be marked plainly—For **COMMERCIAL CREDIT FINANCE PLAN**. Otherwise if shipped in the regular way and the Commercial Credit Co. should not accept the order, the dealer will accept and pay for same on SD/BL basis.

4. When the order is accepted and shipped the Conditional Sales agreement and bill of lading is then mailed to the bank (specified by the dealer) for proper execution and delivery of Bill of Lading. Dealer will receive regular notices from Commercial Credit Branches advising due dates and amount of monthly payments.

DELAY IN SHIPMENT can be avoided if these instructions are carefully followed, and financial statement is supplied promptly with order.

EXAMPLE

INVOICE AMOUNT	FINANCE CHG. 12 MO. PLAN	FINANCE CHG. 6 MO. PLAN	MO. PAYMENTS 12 MO.	MO. PAYMENTS 6 MO.	DOWN PAYMENT
\$ 150.00	\$ 15.00	\$10.00	\$ 13.50 Ea. 10 Mo.	1 @ \$21.70 5 @ 21.66	\$ 30.00
200.00	15.00	10.00	1 @ 14.62 11 @ 14.58	1 @ 28.35 5 @ 28.33	40.00
300.00	21.60	12.00	21.80	42.00	60.00
400.00	29.80	16.00	29.15	56.00	80.00
500.00	36.00	20.00	1 @ 36.37 11 @ 36.33	70.00	100.00
1500.00	108.00	60.00	109.00	210.00	300.00
2000.00	144.00	80.00	1 @ 145.44 11 @ 145.36	280.00	400.00

EXAMPLE—\$460.00 GROUP

Total Cost to Finance 12 Months.....\$33.12

20% Down Payment.....92.00

12 Payments of \$33.50 each.

CANADIAN DEALERS

The Same Arrangements Have Been Made with TRADERS FINANCE CORPORATION, LTD., Toronto, Ont., and All Branches

This Finance Plan is available only to authorized Ford Dealers in the United States and Canada.



FORD TRAINING SCHOOLS FOR MECHANICS COVER THE WORLD

These schools give the students a training which qualifies them to properly repair and rebuild Ford Cars and Trucks, with the aid of Modern Service Station Equipment.

THE Ford Motor Company operate 76 Training Schools for Mechanics, throughout the United States, Canada and foreign countries. These schools are completely outfitted with K R W Authorized Service Equipment. Competent instructors teach the student mechanics the correct use of this equipment in repairing, rebuilding and servicing Ford Cars and Trucks. More than 55,000 mechanics have received this training gratis.

On the opposite page are shown pictures of some of these Ford Service Schools, picked at random. They are excellent examples of what every Ford Dealer's repair shop should be like. Note the compact arrangement of equipment, utilizing the minimum amount of floor space.

These schools have shown the necessity of modern labor saving equipment, and as a result Ford Dealers have installed over \$40,000,000 worth during the past six years.

Nearly five million Model A cars are now in service. Therefore it behooves every Ford Dealer to modernize his shop with these latest tools and labor saving devices in order to protect himself from the invasion of "Independents" who are "chiseling" in on this very profitable business.

LIST OF FORD SCHOOLS IN THE U. S.

Atlanta, Ga.	Kansas City, Mo.
Buffalo, N. Y.	Long Beach, Cal.
Charlotte, N. C.	Louisville, Ky.
Chester, Pa.	Memphis, Tenn.
Chicago, Ill.	Milwaukee, Wis.
Cincinnati, Ohio	New Orleans, La.
Cleveland, Ohio	Norfolk, Va.
Columbus, Ohio	Oklahoma City, Okla.
Dallas, Texas	Omaha, Neb.
Dearborn, Mich.	Pittsburgh, Pa.
Denver, Colo.	Portland, Ore.
Des Moines, Iowa	St. Louis, Mo.
Edgewater, N. J.	Salt Lake City, Utah
Fargo, N. D.	San Francisco, Cal.
Houston, Tex.	Seattle, Wash.
Indianapolis, Ind.	Somerville, Mass.
Jacksonville, Fla.	Twin City (St. Paul, Minn.)
Washington, D. C.	

CANADA

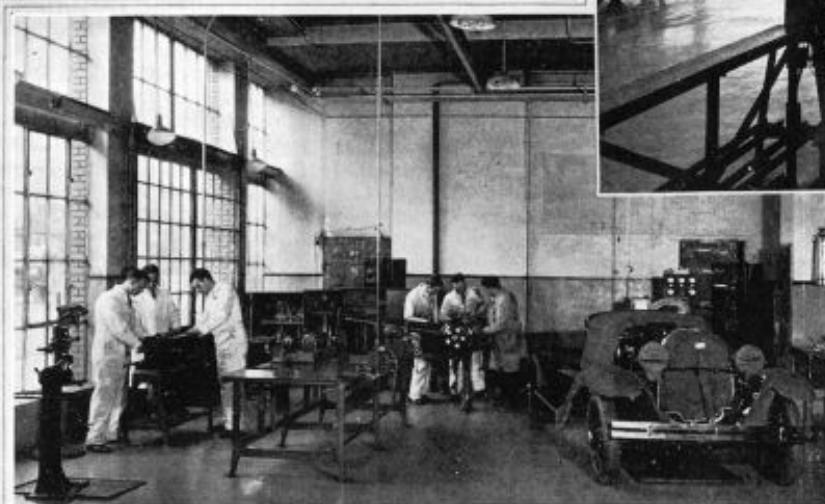
East Windsor, Ontario	Winnipeg, Manitoba
Toronto, Ontario	Regina, Saskatchewan

Montreal, Quebec	Calgary, Alberta
St. John, New Brunswick	Vancouver, British Columbia

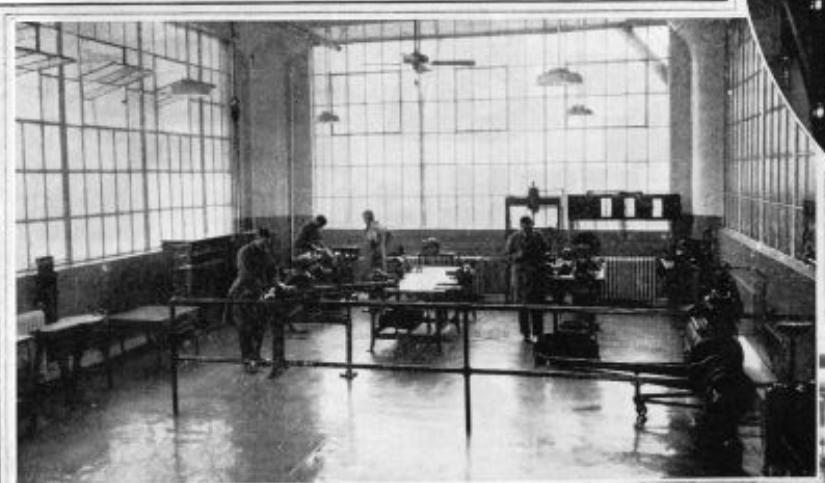
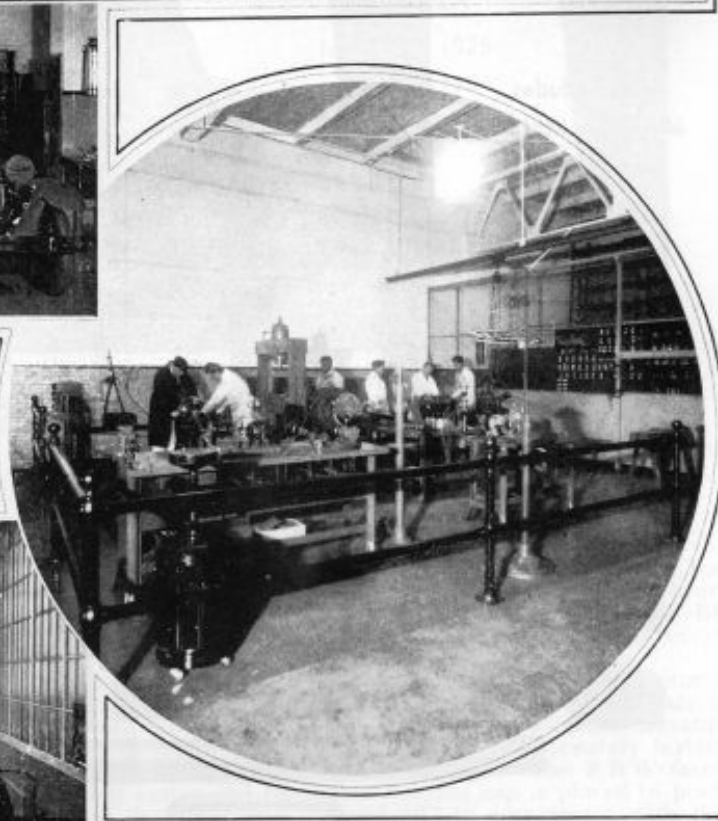
FOREIGN COUNTRIES

Buenos Aires, Argentine, S.A.	Manchester, England
Havana, Cuba	Stockholm, Sweden
Mexico City, Mexico	Asnieres, France
Montevideo, Uruguay	Berlin, Germany
Porto Alegre, Brazil	Cork, Ireland
Rio de Janeiro, Brazil	Geelong, Australia
Santiago, Argentine, S. A.	Perth, Australia
Sao Paulo, Brazil	Brisbane, Australia
Shanghai, China	Bombay, India
Yokohama, Japan	Calcutta, India
Helsingfors, Finland	Madras, India
Rotterdam, Holland	Multan, India
Antwerp, Belgium	Singapore, Sta. Settlements
Barcelona, Spain	Port Elizabeth, South Africa
Copenhagen, Denmark	Wellington, New Zealand
Trieste, Italy	Auckland, New Zealand
	Timaru, New Zealand

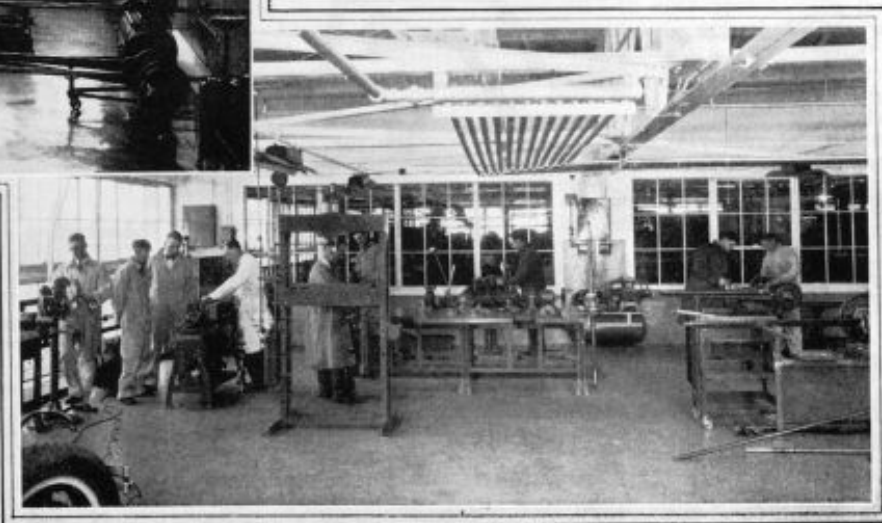
Ford Service Schools are excellent examples of what every dealers' shop should be spotlessly clean, well painted floors, walls and ceilings. Plenty of light and good ventilation. It pays!



These Schools are operated solely for the benefit of Ford Dealers and their mechanics. Dealers, Sales Managers, Service Managers and every Mechanic should take advantage of this opportunity to learn more about Ford Cars. It means more sales and better service.



Dealers! Your Service Manager is a most important cog in your wheel of business. He represents you in contacting your customers. First impressions are sometimes lasting ones, hence his personal appearance, ability, and courteous manner in handling customers combine to either make or break you. Insist on a clean shop and clean mechanics, and your business is bound to prosper. Try it!



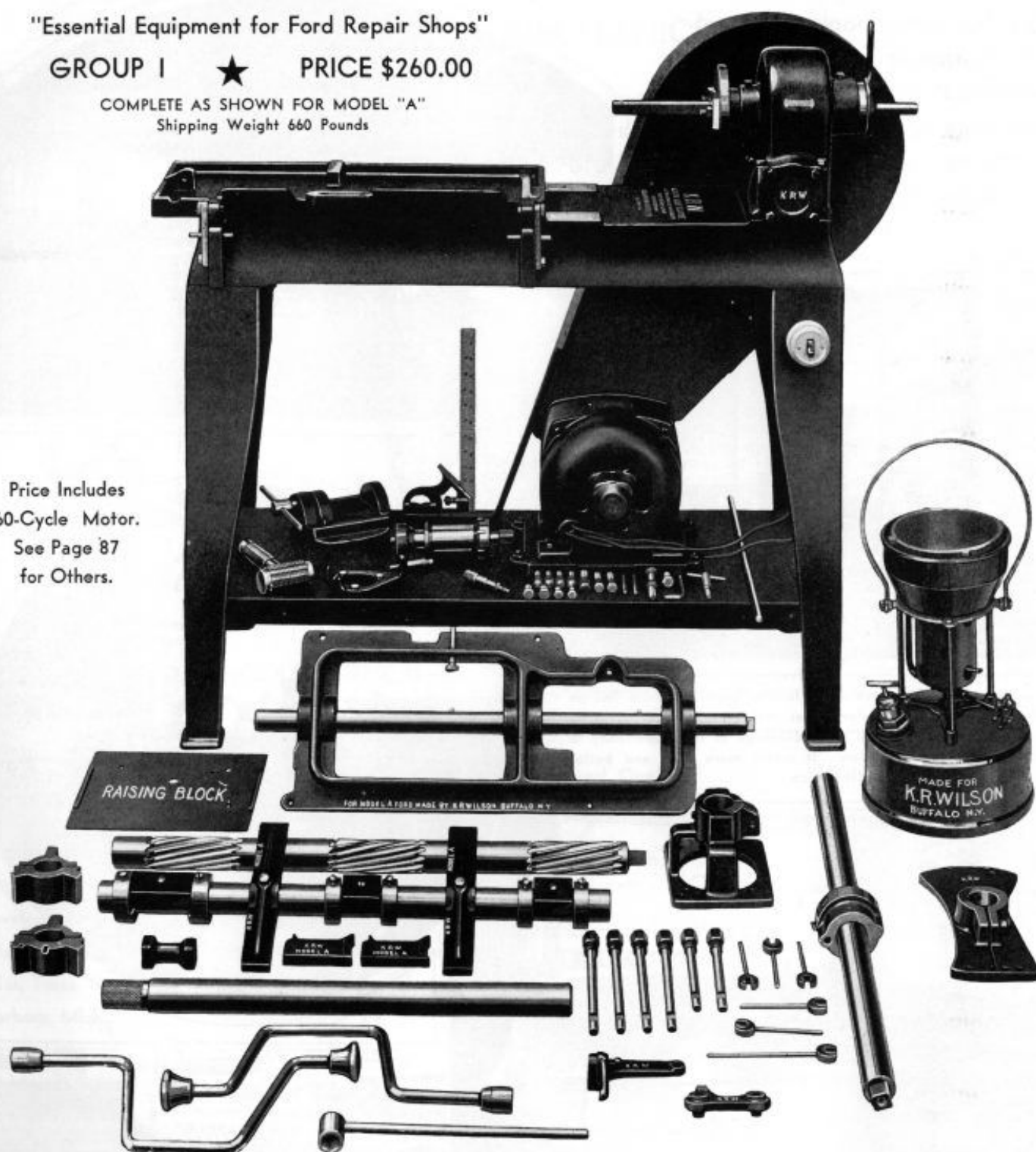
THE COMPLETE K R W COMBINATION MACHINE

"Essential Equipment for Ford Repair Shops"

GROUP I ★ PRICE \$260.00

COMPLETE AS SHOWN FOR MODEL "A"
Shipping Weight 660 Pounds

Price Includes
60-Cycle Motor.
See Page 87
for Others.



THE K R W Combination Machine and equipment shown above enables mechanics to re-manufacture Ford Engines with a greater degree of accuracy, precision and alignment, at 50% less labor cost, than with any other Service Equipment or combination of equipment on the market — regardless of price.

The Ford Motor Company, after making exhaustive tests, adopted it as standard for Ford Service—SEVEN YEARS AGO. It has been improved and the price reduced forty dollars. Additional equipment, such as—Belt Guard, Peining Tool and Clamp, Main Bearing Gage and Raising Block are included.

ATTACHMENTS FOR ANY NEW FORD MOTORS WILL BE SUPPLIED AT LOW COST.

MODEL "T" ATTACHMENTS \$62.00

Including—Rebabbitting Fixture, Babbitt Boring Frame, Babbitt Peining Tool, False Cam Shaft, Main Bearing Reamer, Main Bearing Facer and Fillett Cutter, Cylinder Boring Bar Locating Plugs, Cylinder and Crank Case End Permanent Guides, Combination Machine Bed Plate, Set of Bolts and Accessories, etc.

This price is greatly reduced and subject to stock on hand. In some localities there is still plenty of Model T Repair work to be had, if it is done right. Your obsolete stock can be turned into cash and real profits made on the labor operations, if you go after it.

WRITE FOR OUR "BARGAIN" PRICES on Model T and FORDSON TRACTOR equipment. We have a large stock—prices are ridiculous.

ROUGH BORING MAIN BEARINGS WITH ASSEMBLED CAPS

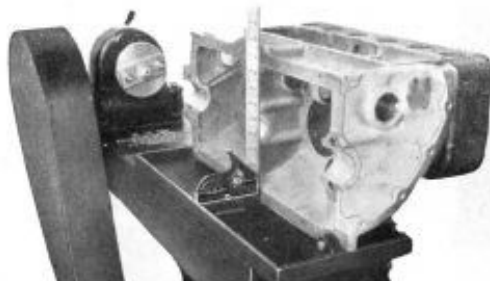
The K R W Process Follows Out Identically the Same Methods Used in the Ford Factory—A Three and One-Half Minute Operation, Which Saves Hours of Hand Labor. Insures Accuracy of Alignment and Perfect Cam Gear Centers

Rebabbitt Every Motor Block

BY the time Ford engines need overhauling the main bearings have become impregnated with grit and metal particles, worn off the cylinders, piston rings, timing gears, etc., which combined with dirty oil forms an abrasive surface. Because of this condition bearings just "tightened up", as in ordinary practice, quickly wear loose. The crankshaft is also thrown out of alignment with the transmission and timing gears are forced to mesh closer, causing excessive noise.

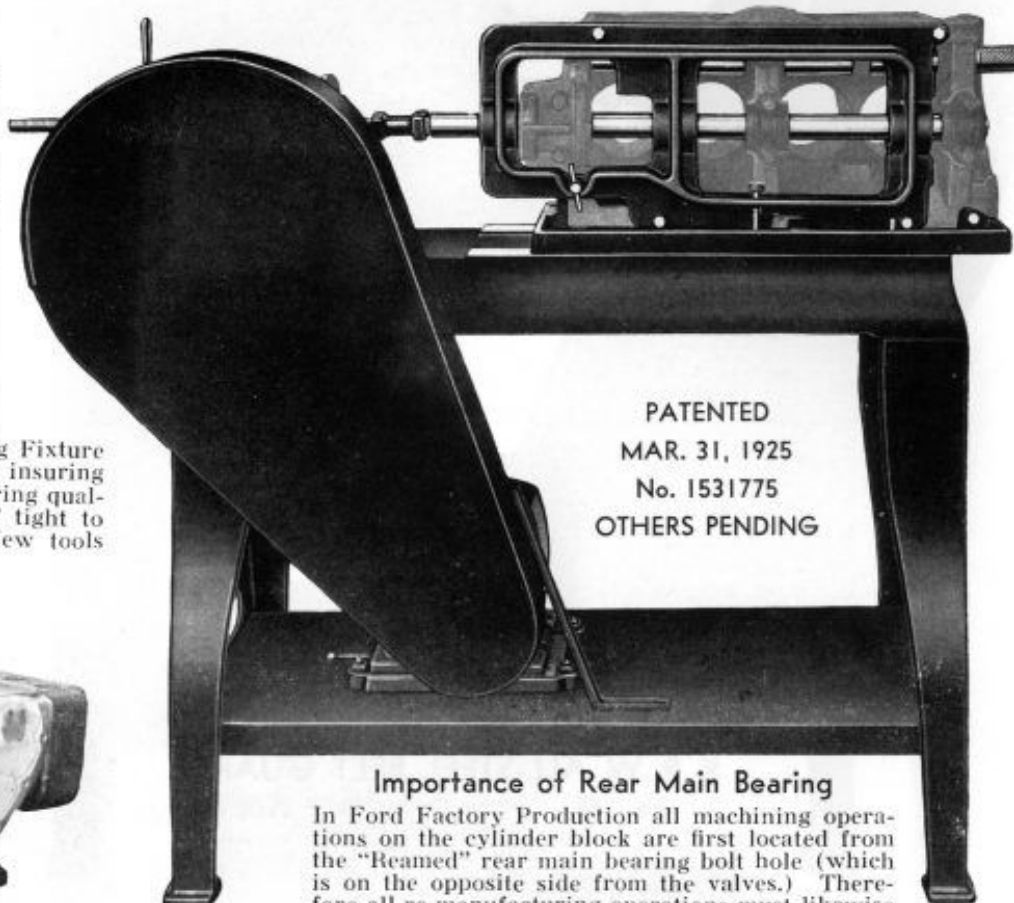
By rebabbiting main bearings these troubles are avoided and perfect alignment is assured. New bearings are cast with the K R W Rebabbiting Fixture which "chills" every bearing alike, insuring uniformity of texture and better wearing quality. The bearings are then "peined" tight to take up the shrinkage, using the New tools shown on page 18.

"Square the Block"



A "flat spot" is machined on the Combination Machine fixture so that the motor block can be adjusted absolutely square with the bed plate. This insures perfect alignment throughout all operations. Many complaints will be avoided if this suggestion is followed.

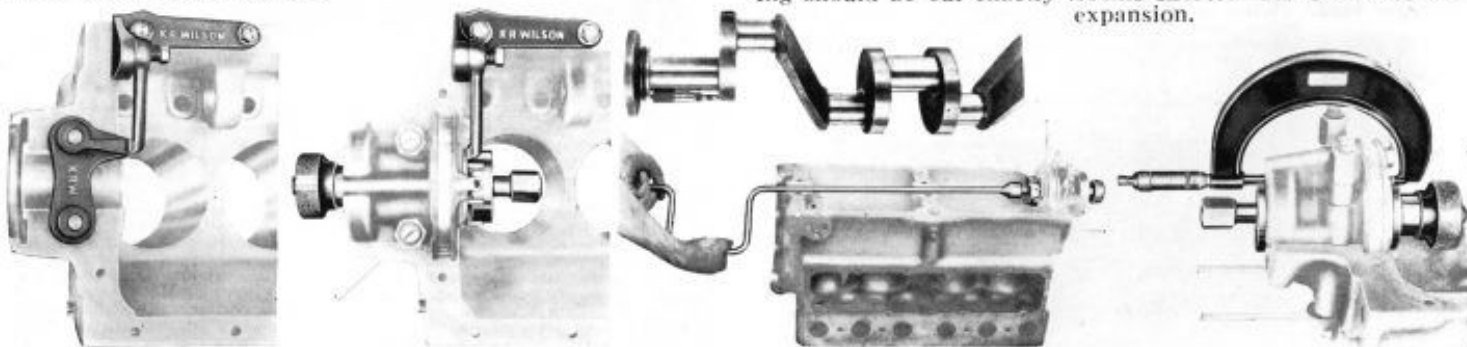
The K R W Combination Machine enables the mechanic to do this operation correctly in a fraction of the time required by any other method. The K R W Babbitt Boring Fixture is very rigid and is bolted to the machined faces of the motor block, which further increases its rigidity. The fixture is entirely self-contained. It connects to the Combination Machine by means of a universal joint. The rebabbit bearings and rough main bearing caps are bored out simultaneously—just large enough to receive the pilots of the main bearing reamer. This leaves six-thousandths of the bearing metal to be align-reamed in the finishing operation. The pilots of the reamer automatically align the caps while they are being bolted down for the final reaming operation. This prevents any possible shifting of the bearing cap.



Importance of Rear Main Bearing

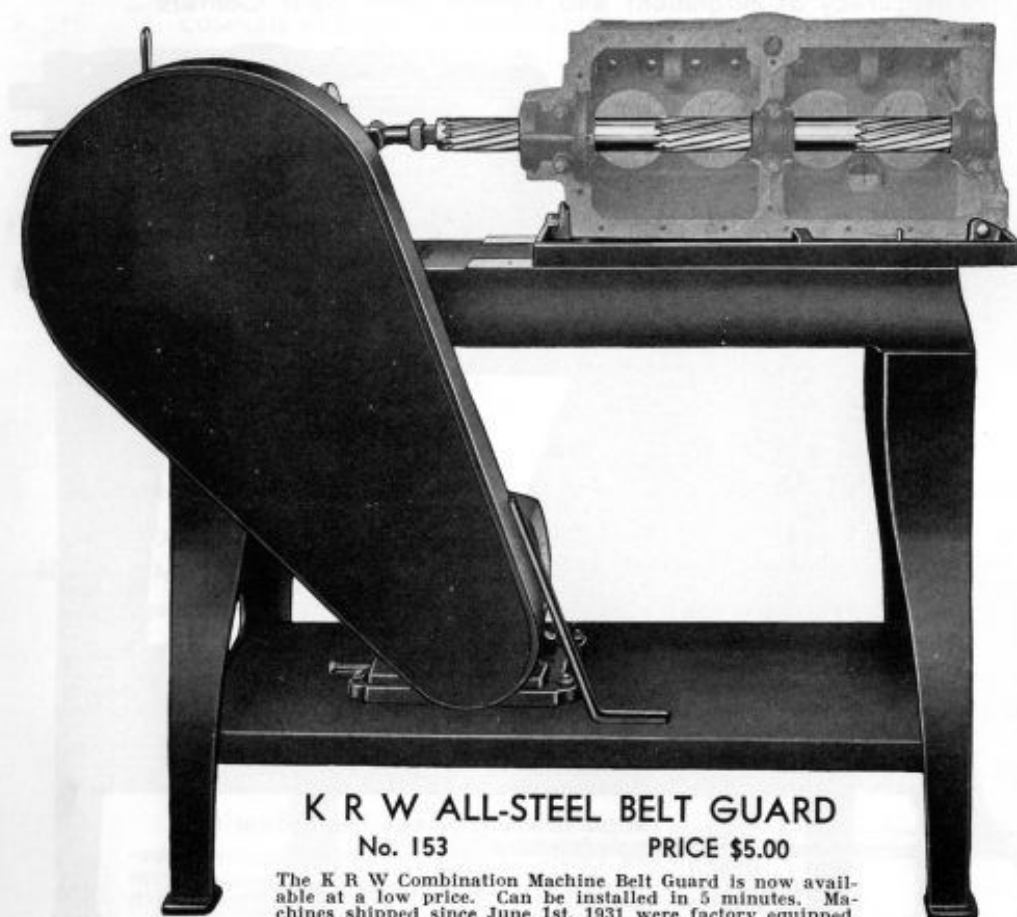
In Ford Factory Production all machining operations on the cylinder block are first located from the "Reamed" rear main bearing bolt hole (which is on the opposite side from the valves.) Therefore all re-manufacturing operations must likewise start from this point. The reason being that the relative position of the crankpins on the crankshaft and the cylinders are held to such close limits. The connecting rod clearance is but .002 to .004ths. Therefore the rear main bearing, which controls end play of the crankshaft, MUST BE POSITIONED ABSOLUTELY ACCURATE. Otherwise every connecting rod will be thrown out of alignment.

The K R W Rear Main Bearing Gauge, shown in the pictures below, makes this operation easy and accurate. The gauge is placed in position as shown in first picture with the movable arm just contacting the locator. The gauge is securely fastened to the block and the locator removed. The K R W facer and fillet cutter and rear main bearing cap is placed in position and the inner end "shaved off" to correspond with the gauge. From this point all measurements are obtained. A new crankshaft measures exactly three inches between flanges on this bearing; worn crankshafts slightly more. An inside micrometer should be used to determine correct amount, as shown in picture. This measurement is transferred to the outside micrometer, as shown in the last picture. The bearing should be cut exactly .004ths shorter—for clearance and expansion.



ALIGN REAMING THE CRANK SHAFT BEARINGS

"The Most Accurate Method Known"



K R W ALL-STEEL BELT GUARD

No. 153

PRICE \$5.00

The K R W Combination Machine Belt Guard is now available at a low price. Can be installed in 5 minutes. Machines shipped since June 1st, 1931 were factory equipped. Shipping Weight about 20 pounds.

FIVE YEARS AGO

K. R. Wilson was called upon to prove it . . .

AND HE DID!

As a result thousands of Burning-in-machines were discarded to be replaced with K R W Combination Machines.

TODAY

More than ten thousand of these machines are being used by Ford Dealers throughout the world.

ALIGN-REAMED bearings are superior in every way to the best job that can be turned out by any other known process. This statement is best proven by the fact that 98% of all American Automobile manufacturers use it. Bearings can be accurately fitted by hand scraping but this requires an expert with years of experience, and takes ten to twenty-five times as long to complete the job. Even then, the bearings are not always in alignment due to the fact they are scraped to fit the shaft. The weight of the hands or the "spring" in the shaft will throw it out. By following the K R W process and using the equipment recommended bearings can be rebabbitted and a crankshaft perfectly fitted in less than one hour.

Main Bearing Reamer Used as Aligning Bar

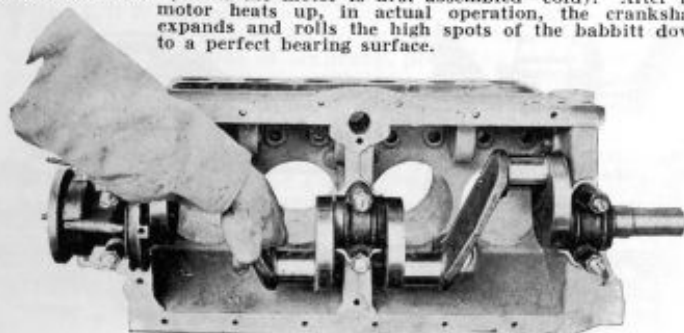


The K R W Main Bearing Reamer is also used as a test bar for checking the alignment of all three main bearings. After the rebabbitted bearings have been rough bored the reamer is placed in position as shown with the pilots in the bearings. If it can be pushed back and forth easily and does not bump or rock, the bearings

are usually O. K. The surest way is to use it as a spotting-in bar with Prussian blue. Perfectly aligned bearings are absolutely necessary to secure smooth operation and maximum power.

Crankshafts Can be Turned With One Hand

By following the K R W process of align-boring and reaming the main bearings one-thousandths larger, the crankshaft can easily be turned with one hand. (When the motor is first assembled—cold). After the motor heats up, in actual operation, the crankshaft expands and rolls the high spots of the babbitt down to a perfect bearing surface.



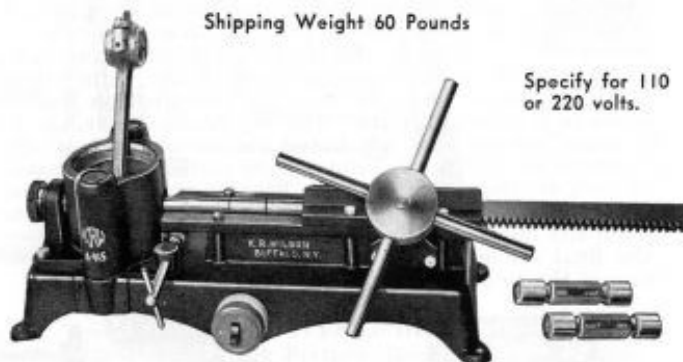
K R W PISTON HEATER AND PIN INSERTING MACHINE

No. A415



PRICE \$30.00

Shipping Weight 60 Pounds



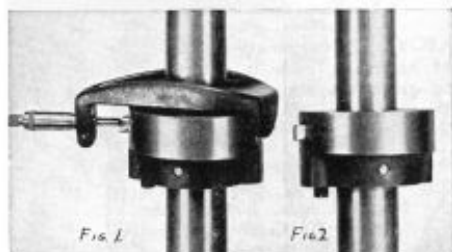
Specify for 110 or 220 volts.

THE New K R W Combined Electric piston heater and pin inserting machine is our latest and one of the most important of all K R W tools. This machine is similar to those used in the Ford factory production, with the addition of the electric piston heater, which is heated with two 500 watt elements. It requires exactly one minute to heat the piston sufficiently to freely insert the pin. An automatic Heat Control maintains correct temperature. Only a slight pressure is required to push the pilot thru the ring in the connecting rod. An adjustable stop against the end of the outside piston boss prevents distortion of the piston. The fixture accommodates both standard and oversizes. Two "go and no go" plug gages for standard and oversize pins are included. Piston pins should be carefully selected as 3/10ths of a thousandth is the correct shrink fit. This machine was "Okeyed" just as we were closing the catalog. More detailed information will be shown in the K R W NEWS as announced in footnote on page 67.

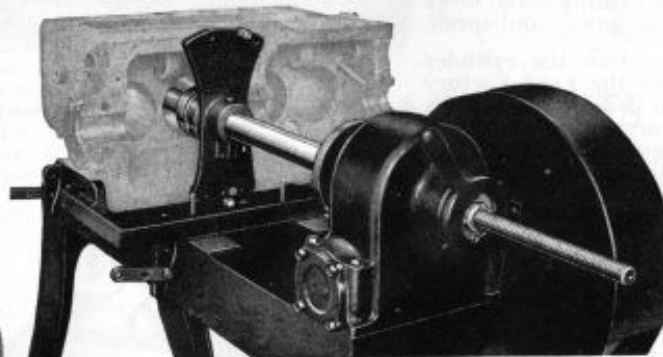
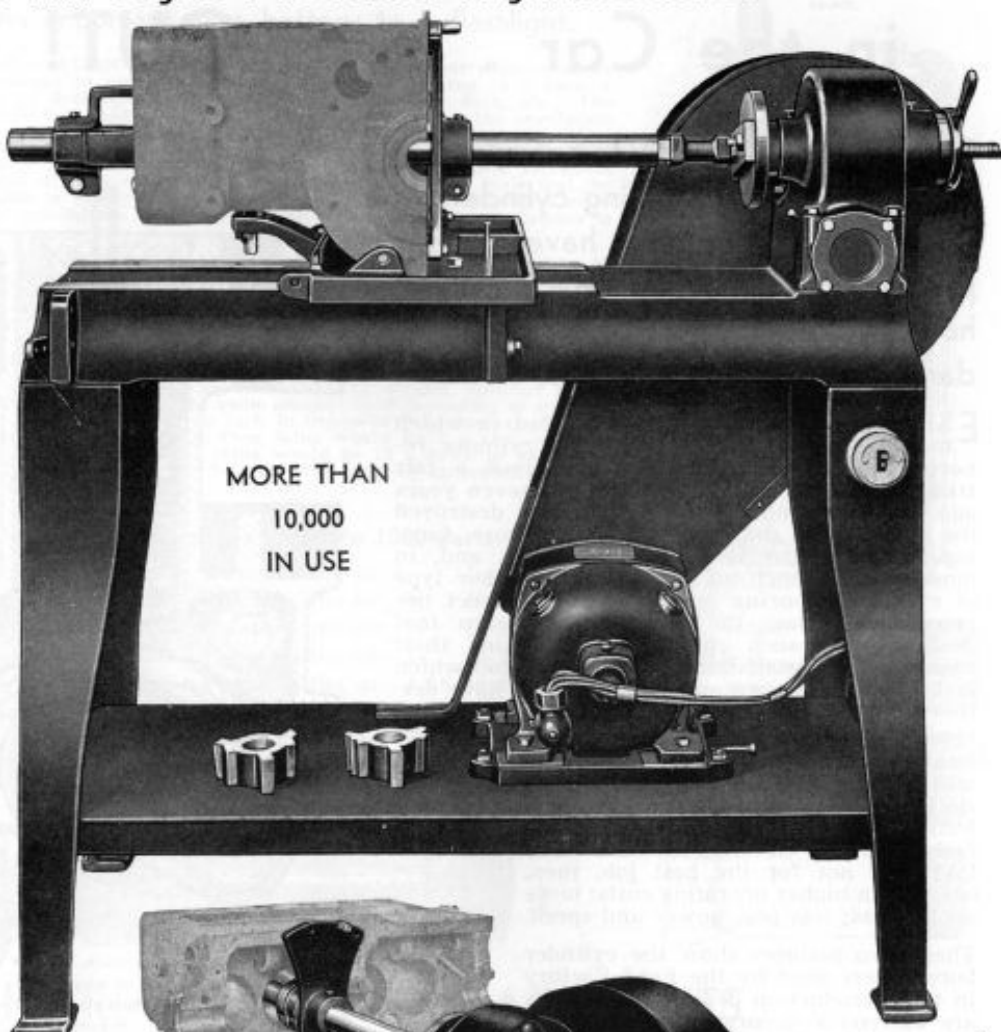
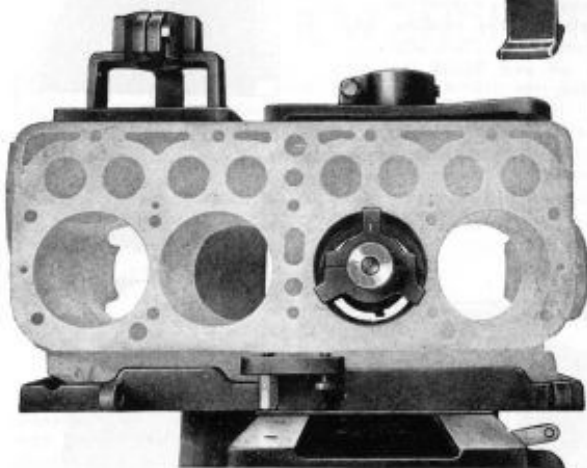
REBORING CYLINDERS ON THE K R W COMBINATION MACHINE

"Accuracy to the N'th Degree . . . Perfect Alignment Assured"

THE K R W Cylinder Reboring Machine is in a class by itself. Seven years ago Ford Engineers tested and compared it with other makes. It was adapted as the standard equipment for Ford Service Stations. This machine is unequalled for accuracy, ease of set-up and low labor cost for reboring Ford cylinder blocks. It requires an average time of 1½ minutes to set-up to rebores each cylinder and start the machine. From then on it requires no attention; when it reaches the end of the cylinder it stops automatically. During the time the cylinder is being rebored (about 8 minutes) the mechanic can assemble pistons and connecting rods and various other necessary operations. Therefore the direct labor cost for reboring all four cylinders is but 7 to 10 minutes.



The Cutters are instantly adjustable to rebores any oversize. The same boring bar is used for both "A" and "T" cylinders. The special Micrometer shown in Fig. 1 enables any ordinary mechanic to quickly adjust the cutter to any oversize, and with any piston clearance desired. The single cutter, with a cutting surface of only one-sixteenth of an inch is the secret. Other makes using multiple blade cutters have a contact with the cylinder wall 150 to 350 times greater—the reason why their cutters are deflected by worn pockets and hard spots, which throws them out of alignment.

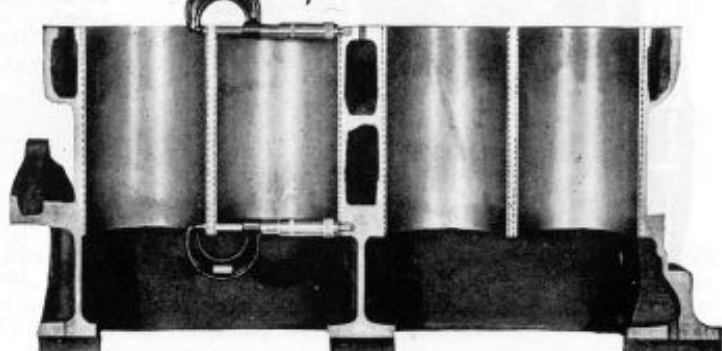


A guide on each end of the block insures absolutely perfect alignment. The boring bar and cutter head cannot be deflected from its original, accurate location due to pockets and worn spots.

The Only Cylinder Boring Machine Made That Will Bore a Straight Hole

That's a strong claim, but I can make it without fear of contradiction and will show you how to prove it. I SUGGEST that you "mike" the thickness of the "web" between each pair of cylinders, then rebores them with any other make of cylinder boring machine (no exceptions). Then mike them again and you will find that the cylinder bores have converged at the bottom by several thousandths, and are no longer square with the crankshaft . . . K. R. Wilson.

Try It Yourself

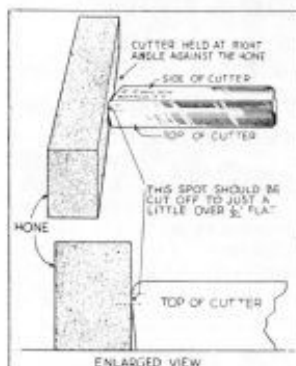


**CUTTERS ARE INTERCHANGEABLE
COST ONLY 50c EACH**

It is not necessary to tie up a K R W Cylinder Reboring Machine to return cutters to the factory for sharpening. They are so inexpensive (only 50c each) you can afford to have several on hand. K R W cutters will not break or dub over when they hit a hard spot or score in the cylinder.

HOW TO HONE K R W CUTTERS

This picture shows how to hone K R W cutters, to bore smooth-as-glass. Use a square, fine, hard hone, at right angles to the cutter as shown. The flat spot does it.



Honing or Reboring Cylinders in the Car . . . is OUT!

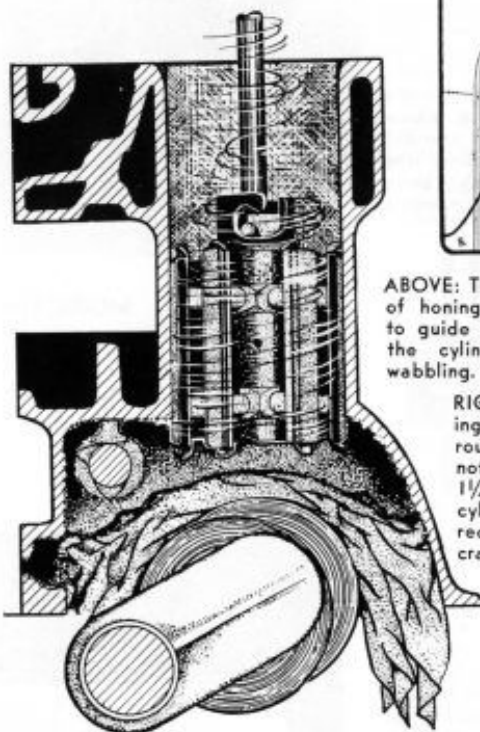
Ford Motor Company do not approve any method of refinishing cylinders in the car. Recent tests have proven portable cylinder boring machines and hones so inaccurate that irreparable damage is done by their use.

EXHAUSTIVE tests recently completed, in which many standard makes of portable cylinder re-boring machines and hones were given a fair trial, proved this . . . just as they did seven years ago. It was found that such equipment destroyed the accuracy of the original cylinder bore, causing mis-alignment with the crankshaft, and, in most cases, to such an extent that no other type of cylinder re-boring machine could correct the error and salvage the block. This means that dealers using such equipment are giving their customers an unsatisfactory, short-lived job which lacks its original pep and power. They have destroyed the customer's cylinder block . . . and his confidence too.

Dealers who claim that Ford owners will not pay the few dollars extra to do this job right apparently have neglected to "sell" the customer on these facts. **THE CUSTOMER ALWAYS PAYS**—If not for the best job, then, later on, in higher operating costs; more oil and gas; less pep, power and speed.

These two pictures show the cylinder bore testers used by the Ford Factory in their production departments. They are extremely accurate and show the slightest error in tenths of thousandths. Nothing is left to guesswork. The cylinder bores must "check" round, free from taper and absolutely square with the crankshaft.

If they don't then they are scrapped. Customers are entitled to the same accuracy on repair jobs. It can be done with K R W equipment.

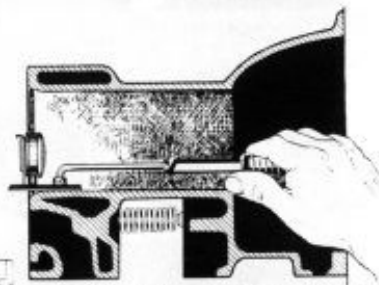
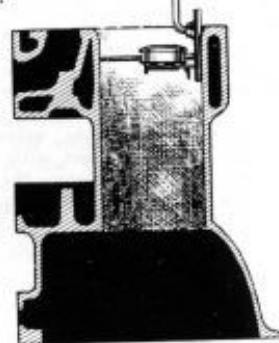


It is impossible to protect all engine parts against flying abrasives from wet or dry hones. They will collect in places where they cannot be removed without disassembling the engine. Eventually they mix with the oil and RUIN the motor.



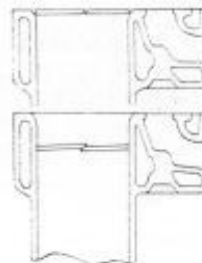
ABOVE: The customary method of honing. There is nothing to guide the hone straight in the cylinder or prevent it wobbling.

RIGHT: The Dial indicating gauge may show a round hole, but it does not indicate errors within 1/4 inches from top of cylinder or check for correct alignment with the crankshaft.



ABOVE: Use the Dial Indicating Gauge this way after a honing operation. It shows up the errors—cylinders are flared or bell-mouthed at the top end.

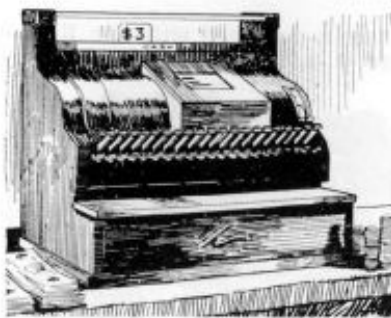
RIGHT: Most repairmen fit piston rings flush with the top of cylinder. SEE WHAT HAPPENS when the piston goes down in a cylinder that has been honed. The rings wear out in a few minutes.



A New Process For Finishing Rebored Cylinders has just been perfected.

The Cylinders are first accurately rebored on a K R W Combination machine, then the "wire edge" or tool marks are removed with a special polishing machine which produces a "plate glass" finish and requires but one minute per cylinder. Only approximately one-half thousandth of metal is removed, which does not affect the accuracy of the rebored job. This new finish is particularly desirable for aluminum pistons.

WATCH THE K R W NEWS FOR DETAILS



Look at these pictures and read the copy and you will see that reading a micrometer is just as easy as operating a cash register.

DECIMAL EQUIVALENTS

INCH	INCH
$\frac{1}{64}$.0156	$\frac{33}{64}$.5156
$\frac{1}{32}$.0313	$\frac{17}{32}$.5313
$\frac{3}{64}$.0469	$\frac{15}{64}$.5469
$\frac{1}{16}$.0625	$\frac{31}{64}$.5625
$\frac{5}{64}$.0781	$\frac{29}{64}$.5781
$\frac{3}{32}$.0938	$\frac{27}{32}$.5938
$\frac{7}{64}$.1094	$\frac{25}{64}$.6094
$\frac{1}{8}$.1250	$\frac{51}{64}$.6250
$\frac{9}{64}$.1406	$\frac{49}{64}$.6406
$\frac{5}{32}$.1563	$\frac{47}{64}$.6563
$\frac{11}{64}$.1719	$\frac{45}{64}$.6719
$\frac{3}{16}$.1875	$\frac{43}{64}$.6875
$\frac{13}{64}$.2031	$\frac{41}{64}$.7031
$\frac{7}{32}$.2188	$\frac{39}{64}$.7188
$\frac{15}{64}$.2344	$\frac{37}{64}$.7344
$\frac{1}{4}$.2500	$\frac{35}{64}$.7500
$\frac{17}{64}$.2656	$\frac{33}{64}$.7656
$\frac{9}{32}$.2813	$\frac{31}{64}$.7813
$\frac{19}{64}$.2969	$\frac{29}{64}$.7969
$\frac{5}{16}$.3125	$\frac{27}{64}$.8125
$\frac{21}{64}$.3281	$\frac{25}{64}$.8281
$\frac{11}{32}$.3438	$\frac{23}{64}$.8438
$\frac{23}{64}$.3594	$\frac{21}{64}$.8594
$\frac{3}{8}$.3750	$\frac{19}{64}$.8750
$\frac{25}{64}$.3906	$\frac{17}{64}$.8906
$\frac{13}{32}$.4063	$\frac{15}{64}$.9063
$\frac{27}{64}$.4219	$\frac{13}{64}$.9219
$\frac{7}{16}$.4375	$\frac{11}{64}$.9375
$\frac{29}{64}$.4531	$\frac{9}{64}$.9531
$\frac{15}{32}$.4688	$\frac{7}{64}$.9688
$\frac{31}{64}$.4844	$\frac{5}{64}$.9844
$\frac{1}{2}$.5000	1 .1.0000

Learn to Read a Micrometer

You are not a mechanic until you can —
As important as a battery to a flashlight.

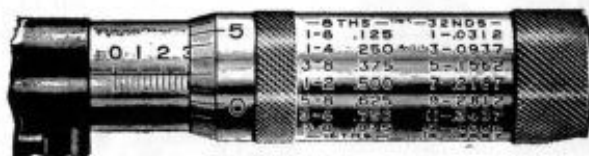
EXPLANATION—All standard makes of micrometers are made to measure in units of one-inch only, i. e. nothing to 1 inch, 1 inch to 2 inch, 2 inch to 3 inch, 3 inch to 4 inch, etc. The SPINDLE is laid out into 10 equal sections above the revolution line. Which would be similar in comparison to 10 one dollar bills. Each one of these ten sections is also subdivided into four smaller sections each of 25 or 25c. The REVOLVING THIMBLE is also divided off into 25 sections per revolution. Now that the spindle is threaded 40 threads per inch it would require 4 complete revolutions to make a dollar, or 40 complete revolutions to make ten dollars or one inch on the micrometer.

TO READ A MIKE—Look for the number of large divisions on top of the revolution line (or one dollar bills) then the quarter divisions or 25c pieces, then the number of thousandths on the thimble from the zero mark to the revolution line. The total of all these will give you the correct reading. The spindle has a right hand thread. If we turn it clockwise it will decrease and counter clockwise will increase the number of thousandths.

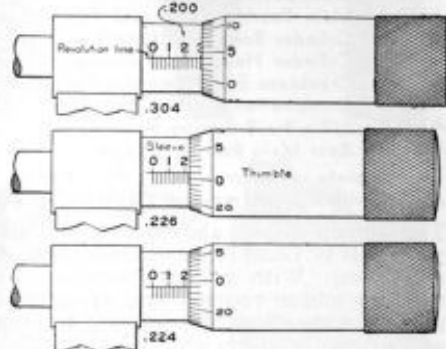
EXAMPLE—First spindle shows \$.04; second spindle shows \$.26; third, \$.24, or the same amount in thousandths of an inch. How much is $\frac{3}{4}$ ths of an inch in thousandths? Answer, if $\frac{1}{4}$ of a ten dollar bill is \$.25 then $\frac{3}{4}$ ths would be 3 x \$.25 or \$.75 or .75 thousandths. $\frac{13}{16}$ ths would be 13 x .625c or .8125 or .8125 thousandths, etc. See table of decimal equivalents. Practice it.

A Micrometer Divides the Inch Into 1000 Parts

10.00	Equals	1,000	Thousandths or 1	Inch
5.00	Equals	.500	Thousandths or $\frac{1}{2}$	Inch
2.50	Equals	.250	Thousandths or $\frac{1}{4}$	Inch
1.25	Equals	.125	Thousandths or $\frac{1}{8}$	Inch
.625	Equals	.0625	Thousandths or $\frac{1}{16}$	Inch
.3125	Equals	.03125	Thousandths or $\frac{1}{32}$	Inch
.15	Equals	.015	Thousandths or $\frac{1}{64}$	Inch
.01	Equals	.001	Thousandths or 1	Thou.



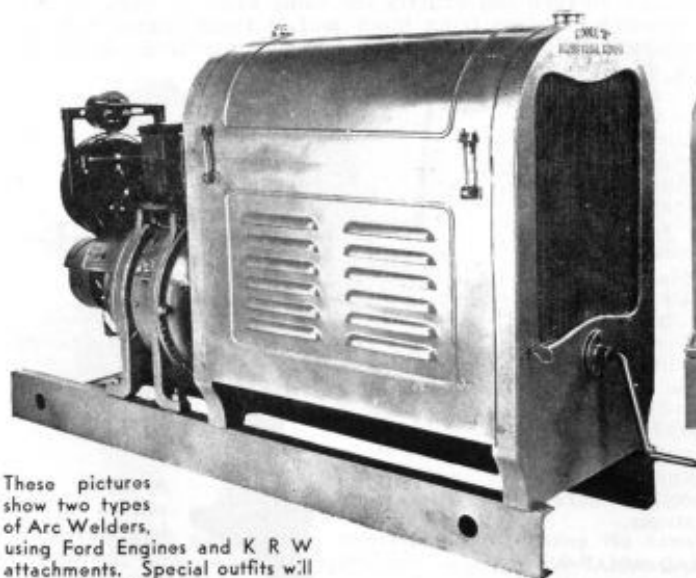
It's not as hard to read a micrometer as it might seem.



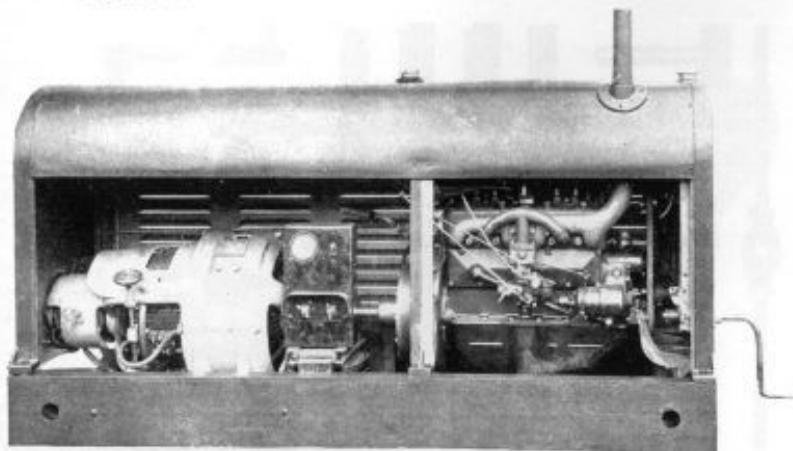
K R W INDUSTRIAL MOTOR ATTACHMENTS

THE Model A Ford Engine has proven so reliable when used as an industrial power plant that we have decided to manufacture a complete set of attachments which will enable Ford Dealers to build several types of units to meet various needs, at prices far below other makes. We can supply the attachments only, or the complete unit. A new field of opportunity is open to the wide-awake dealer.

The sales possibilities are tremendous! These units can be used to operate welders, lighting plants, air compressors, hoists, water and fire pumps, amusement devices, drilling outfits, harvesters and a hundred and one other machines. Circulars showing many different uses to which these units can be put, together with prices and other information will be mailed to all dealers within ninety days. Send us your inquiries.



These pictures show two types of Arc Welders, using Ford Engines and K R W attachments. Special outfits will be built to order.



K R W SPECIAL EXHAUST MANIFOLD

No. A414

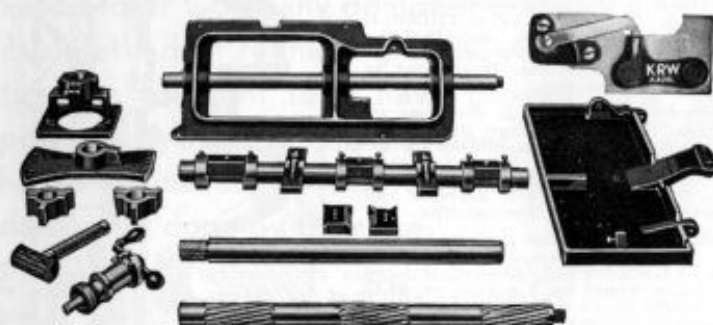
PRICE \$4.50

The K R W Vertical outlet exhaust manifold has been made especially for industrial engines and can be supplied promptly from stock. Shipping weight 16 pounds.

K R W ATTACHMENTS TO ADAPT MODEL "A" MOTOR TO COMBINATION MACHINE

No. A300 PRICE \$110.00

Shipping Weight 185 Pounds



A300-A	Rebabbiting Fixture	20.00
A300-B	Babbitt Pining Tool	2.50
A300-C	Babbitt Boring Bar and Frame	38.00
A300-D	False Cam Shaft	4.50
A300-E	Main Bearing Reamer	20.00
A300-F	Main Bearing Facer and Fillett Cutter	6.00
A300-G	Cylinder Boring Bar Locating Plugs—Pair	3.50
A300-H	Cylinder Head End Permanent Guide	3.50
A300-I	Crankcase End Permanent Guide	2.50
A300-J	Combination Machine Bed Plate	12.50
A300-K	1/8 x 9 x 9 Raising Block	2.50
A300-L	Rear Main Bearing Gauge	1.50

The complete set is furnished at the lot price.

Any individual items may be purchased at prices shown.

The Group listed above includes all attachments to bring your K R W Combination machine up-to-date to handle Model A Motors. With a large number of the early models now needing major repairs and complete overhauling, it is important your shop be equipped to handle this work properly and promptly, otherwise you lose the business and customer contact to some competitor.

K R W HAND OPERATED MAIN BEARING SET

FOR REBABBITTING—BORING—REAMING

No. 2BA PRICE \$80.00

Shipping Weight 130 Pounds Boxed



(See next column for operation picture)

This outfit is exactly the same as supplied with the K R W Combination machine, except it is hand operated. A special feeding device is attached to the front guide. The same accurate results are obtained as with the power machine. This outfit is intended only for the smallest dealers, also authorized service stations and fleet owners. Medium and large Ford agencies are expected to install complete combination machines.

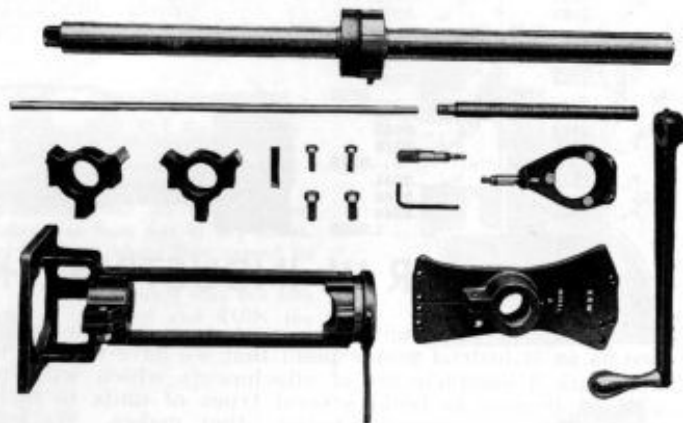


A similar outfit can be supplied for Model "T" also tractor. Write for prices.

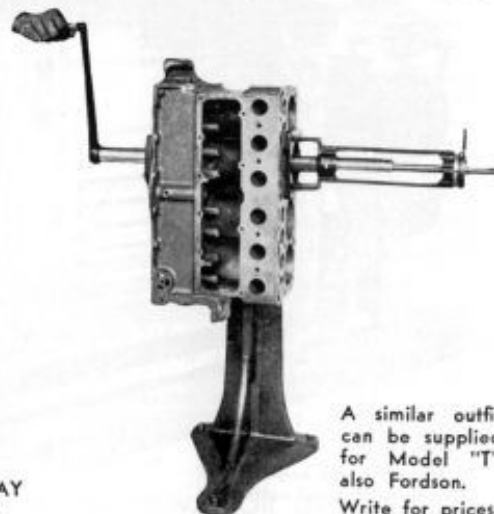
K R W HAND OPERATED CYLINDER REBORING MACHINE

No. 1BA PRICE \$50.00

Shipping Weight 60 Pounds



The K R W Hand Operated Cylinder Reboring Machine is exactly like that used on the combination machine. A special feeding device as shown in operation picture enables the operator to turn out exactly the same kind of work—a dead accurate hole—free from taper and at right angles with the crankcase. No other cylinder reboring machine can do the job as accurately. Special micrometer furnished with outfit enables mechanic to quickly adjust cutter to rebore any oversize. Cutters cost 50c each. Time required about 10 minutes per cylinder including set up. This outfit is intended for the smallest Ford Dealers, Fleet owners and Authorized service stations.



A similar outfit can be supplied for Model "T" also Fordson. Write for prices.

READ WHAT WE SAY
ABOUT HONING

K R W OIL GROOVE CUTTER

No. A402

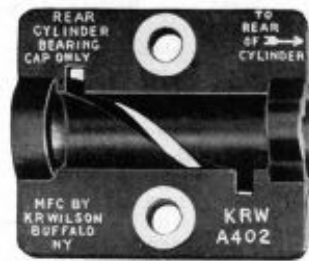


PRICE \$9.00

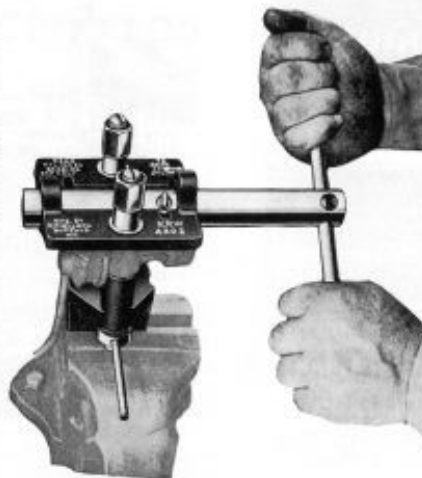
F. O. B. Factory, Arcade, N. Y.

PATENTS APPLIED FOR

THE KRW Oil Groove Cutter Set will bring "joy and happiness" to thousands of Ford mechanics. After three years of experimental work, starting with elaborate and complicated devices we have finally developed and perfected a simple tool that can be sold at a price so low every Ford dealer can afford to buy one or more sets. A half turn of the handle and the groove is cut—the same kind of a job you get in new cylinder blocks and bearing caps from the factory. The instrument is accurately made. Has nothing to get out of adjustment and cause trouble. The cutter swivels to follow the groove in each fixture. Four fixtures are necessary to cut both right and left hand spirals in both sizes of main bearings and main bearing caps. Another fixture is included to hold the main bearing caps, in a vise, while the oil groove is being cut, as shown in the picture on the right. Each fixture is plainly marked where and how to be used, therefore no mistakes should be made by mechanics. Due to lack of suitable equipment for cutting oil grooves, many mechanics have done the best they could with improvised tools or neglected it entirely, with the result that a large percentage of the overhauled-rebabbitted motors have burned out main bearings due to poor circulation of oil. The high speed at which these motors are often operated makes the equal of a factory job necessary. We expect to sell this important set of labor saving tools to 98 per cent of all Ford dealers, therefore quantity production enables us to quote this extremely low price—a fraction of what we could get for them. Order yours today, NOW.

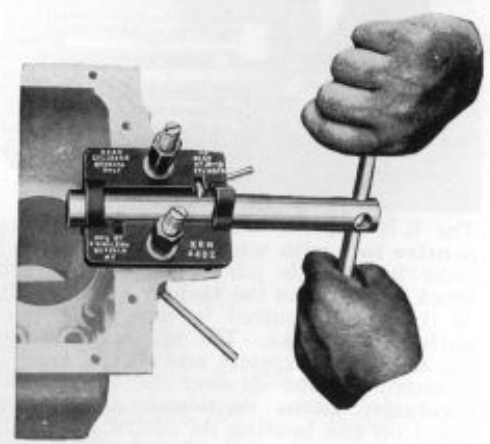
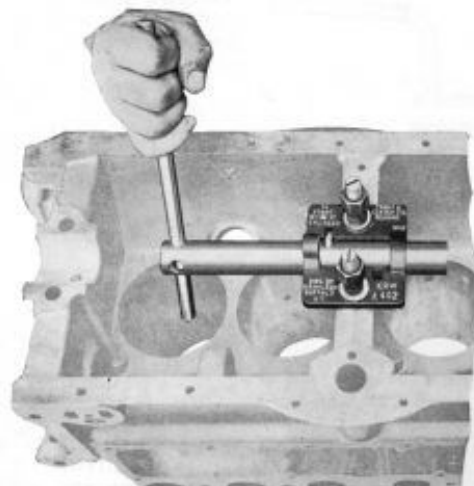
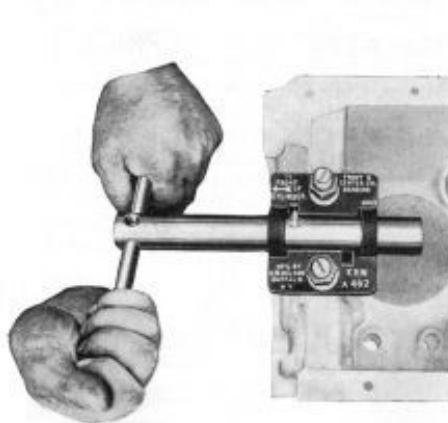


Shipping Weight
15 Pounds



ABOVE. Shows three main bearing caps which have been bored out, align-reamed and the oil grooves cut. They equal a factory job.

LEFT. Cutting the oil groove in a rear main bearing cap. The special holding fixture and QD bolts are used.



Cutting the front main bearing, turn the cutter to the left—pushing it slightly forward at the same time.

Cutting the center main bearing, turn to the left, change handle to complete full half turn.

Cutting the rear main bearing, turn to the right. Push the cutter forward at the same time.

K R W BABBITT PEIN AND CLAMP

No. A406A

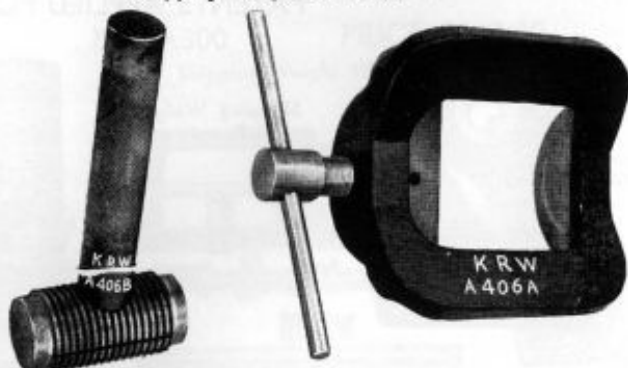
No. A406B



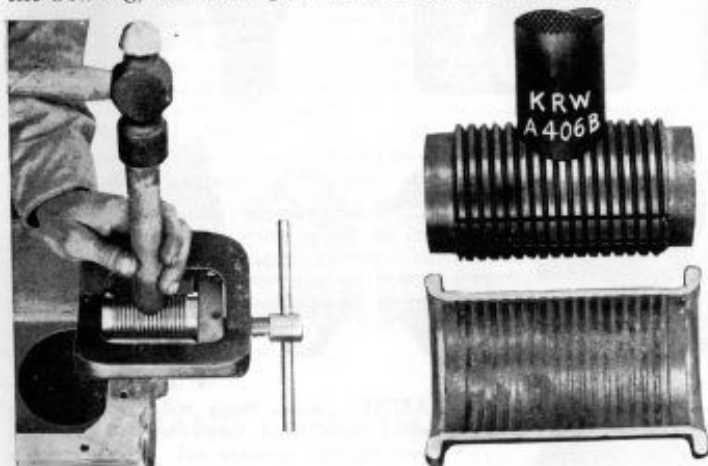
PRICE \$2.75

PRICE \$2.50

Shipping Weight 12 Pounds Per Pair



The New K R W Babbitt peining tool and clamp will solve the problem of peining rear main bearings in Model A engines. The clamp is very strong and will hold the flanges of this bearing tight against the cast iron around which it is moulded, so that the peining operation cannot stretch and loosen it. The peining tool has been made just long enough to fit in the clamp, without end play. As shown in the picture, no peining is done within $\frac{3}{8}$ ths of an inch from the end of the bearing, eliminating all danger of cracking flanges.



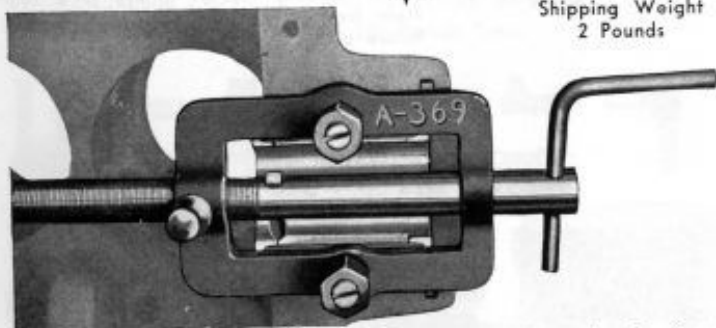
K R W MAIN BEARING OIL WELL CUTTER

No. A369



PRICE \$3.50

Shipping Weight
2 Pounds



The K R W Main Bearing Oil Well Cutter is a simple, inexpensive tool with which ordinary mechanics can turn out the same high grade job as you would get in a new cylinder block direct from the factory. It does the work in a fraction of the time required by any other method. Every job is uniform and alike. The oil well is a very important part of the lubrication system and should receive careful attention—it distributes the oil over the entire bearing also serves as a reservoir. Some repairmen (not mechanics) even file or bevel off the bearing its entire length, this allows the oil to run out the ends of the bearing and very little of it will find its way under the crankshaft. The oil well was put there for a purpose and must not be changed as it affects the circulatory flow of oil resulting in excessive wear, sometimes burned out bearing. It's SO easy to do it right.

K R W "Q D" MAIN BEARING BOLTS

Save 30 to 60 Minutes on Every Main Bearing Job



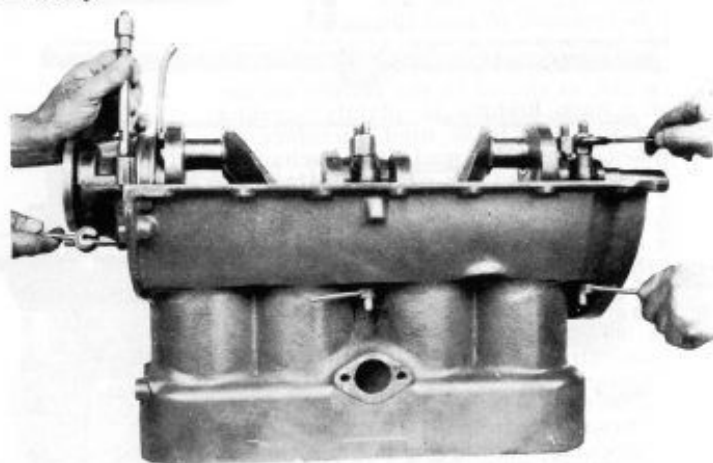
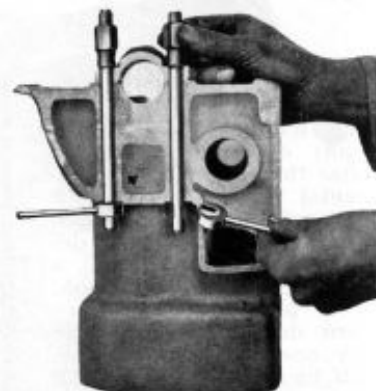
No. 6

PRICE \$6.00 PER SET

Shipping Weight 4 Pounds

K R W Quick Detachable Main Bearing Bolts can be inserted and tightened in 3 seconds.

Main bearings should be inspected 3 or 4 times during the process of fitting them, regardless of whether it is done by hand-scraping or align-reaming. When regular main bearing bolts are used these inspections take too much time and mechanics are apt to slight the job—by neglecting to do it. So it is necessary to provide a means that will encourage this inspection and make it easy for the mechanic. TO OPERATE—Slip the bolt into position as shown in lower picture, then insert the forked socket. A quarter turn on the hex nut and the bolt is tightened. They operate so quick and easy that no mechanic would ever think of being without a set after using them once. They are also used in connection with the new K R W Oil Groove Cutters, and with Model T motors. These bolts are made from chrome nickel hardened and ground to close limits. The hex nuts and fork wrenches are made of tough alloy steel, heat-treated. Order a set now, and start saving time—money.



K R W CAM SHAFT VISE

No. A371

PRICE \$1.00

Many Cam Shafts have been damaged as a result of being held in an ordinary vise while fastening or unfastening the lock nut and removing the fibre timing gear. This inexpensive babbitt lined vise will hold the cam shaft securely and prevent any damage to those accurate and highly finished surfaces.



K R W CAM GEAR PULLER

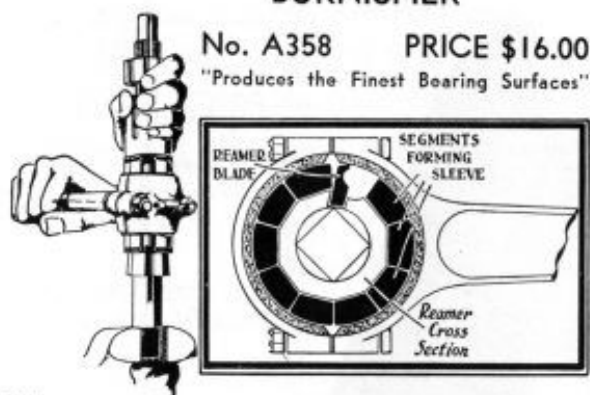
No. A372

PRICE \$1.00

This puller is seldom used, but when it is required, is a very important tool. The jaws are accurately machined to fit squarely against the sides of the gear, to apply uniform pressure and prevent distortion. At the extremely low price, you certainly want one.



MODEL "A" CONNECTING ROD REAMER-BURNISHER



No. A358 PRICE \$16.00

"Produces the Finest Bearing Surfaces"

This new Adjustable Reamer-Burnisher has been developed and perfected to turn out better work than is possible by the most expert of bearing scrapers—and in a fraction of the time. TO USE: Micrometer the crank pin then adjust the reamer segments to that measurement, after removing a few shims or filing off the connecting rod cap, an amount approximating the amount of undersize. The connecting rod is then clamped on the "sleeve of segments" (as illustrated) and the bolts are tightened. The single reamer blade is gradually adjusted until shavings of bearing metal resembling tin foil commence to fall out—resulting in a perfectly smooth bearing—straight from end to end. The segments burnish the bearing surface to a high polish so that there is no high spots to wear down and allow the bearing to become loose, as is often the case after hand scraping. Connecting rod alignment is unchanged. Shipping weight 5 pounds.

K R W MODEL "A" CONNECTING ROD REAMER



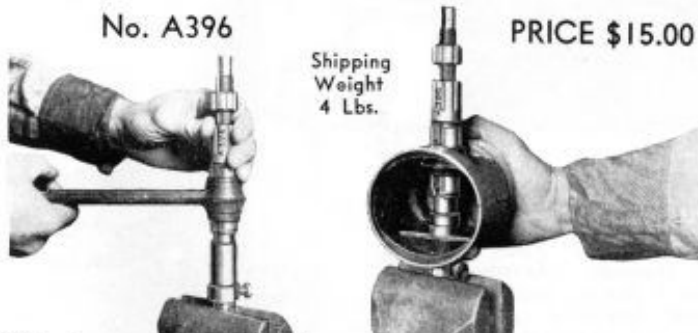
No. A338
PRICE \$5.50

This Reamer has been especially designed for reaming Model "A" connecting rods. Hand scraping is entirely eliminated, except in rare cases, on the filleted edge, thus enabling the mechanic to secure a high-class job in a fraction of the time ordinarily required for hand fitting. This Reamer is spiral fluted to prevent chatter, and has a pilot of sufficient length to start the Reamer straight and is only .004ths smaller than the reamer, thus assuring that the bearing will be reamed at right angles. This Reamer of course does not offer as many advantages as our No. A358 Reamer-Burnisher and it costs only one-third

as much. Smaller shops where maximum speed and minimum costs are not essential will find this Reamer entirely satisfactory and a big time saver.

Shipping Weight 5 Lbs.

"A" PISTON AND CONNECTING ROD BURNISHER



No. A396

PRICE \$15.00

Shipping
Weight
4 Lbs.

This Reamer is identical in construction with our No. A358 except smaller and includes extra pilot for locating.

K R W EXPANSION HONE

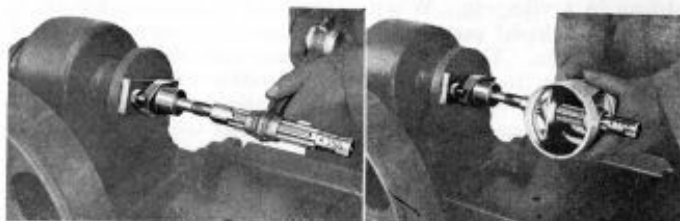
★ No. A356

PRICE \$7.50



This Hone has been designed and perfected by Ford engineers to be used only after the connecting rod and piston have first been reamed oversize to make the holes round and true. The Hone removes very little metal, but polishes off any high spots, giving a "perfect" bearing surface and a much closer fit than can be obtained by reaming alone. On account of the high speed at which most model "A" cars are operated, also the expansion of aluminum pistons, your service department cannot be too careful in fitting these bearings—if satisfactory results are to be expected. The "stones" are natural (not Carborundum) and are cemented into adjustable blades similar to a "Critchley type" reamer. The hone can be held in a vise and the piston or "rod" rotated around it, or it can be driven by the face plate on a K R W combination machine, by using our Hone Adapter to No. A378 which can instantly be attached as shown. Should not be used in an electric drill.

Shipping Weight 3 Lbs.



K R W PISTON PIN HONE ADAPTER



No. A378
PRICE \$2.00

For use with K R W combination machine enables the mechanic to utilize

the slow speed of 25 R.P.M. Allows both hands for holding connecting rods or pistons.

Shipping Weight 1 Lb.

K R W "PUSH ROD" COUNTERSINKING TOOL

Necessary for New Style Push Rods

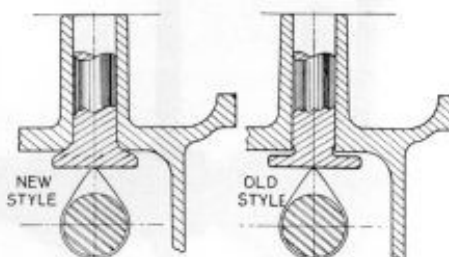
★ No. A390

PRICE \$8.00



The K R W Push Rod Countersinking Tool is absolutely necessary. Old style push rods have been discontinued. The new one will jam the camshaft unless the bottom of the guide is countersunk, as shown. Get this tool now—be ready.

Shipping Weight 8 Lbs.



K R W CONNECTING ROD JIG FOR "A" - "T" AND TRACTORS

THE K R W Connecting Aligning Jig costs less, does more than any other fixture on the market. It handles all three styles of Ford A-T and Fordson Rods as shown below. It not only tests for twists and parallelism but "offset" rods which cause plenty of trouble. The fixture is a heavy semi-steel casting properly proportioned to withstand strains, etc. The castings are rough machined then seasoned for several months before being finished, to insure permanent accuracy. The Faces are ground. The Arbor is made of high grade alloy steel, heat treated, hardened and ground to close dimensions. Three different diameters accommodate the various types of Ford rods. The "sea lion" or tripod is carefully milled, then accurately ground to match master fixtures. The clamp takes up all lost motion and is designed so that it cannot distort the fixture. See pictures below which explain other valuable features.

It is a well known fact that most "piston troubles" are due directly or indirectly to improper alignment. Sometime the piston is "cocked" because of a bent connecting rod, but more often the trouble is due to carelessness of the mechanic while assembling pistons and connecting rods. Wrist pins may be installed off-center, rods may be bent by careless handling, holding in a vise, etc. When assembled to the crankshaft the piston is "cocked," pumps oil and causes excessive wear on the cylinder walls. The K R W Fixture will indicate all these errors so that they can be corrected before final assembly is completed. The value of this fixture cannot be over-estimated. It is extremely necessary to turn out good work.

★ No. A335
PRICE \$12.50

F.O.B. Factory Arcade, N. Y.
Shipping Weight
46 Pounds

SEE FORD SERVICE
BULLETIN—JAN. 1929



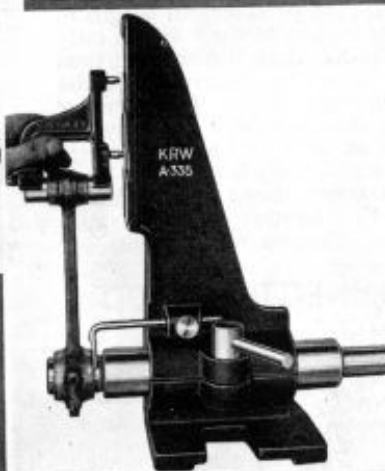
LEFT—Testing rod for "offset."
The face of the top end should just touch the fixture. It should be moved back and forth to see that it does not bind. The arbor clamp is then tightened and the "L" shaped bracket adjusted until it touches the edge of the babbitted end.

A perfectly straight but offset rod will throw the piston out of alignment and cause the same trouble as a piston pin installed off center. They need not be discarded if the amount of offset required to correct this condition is considered when placing the piston pin in position. The lower end of the connecting rod must be in line with the center of the piston.

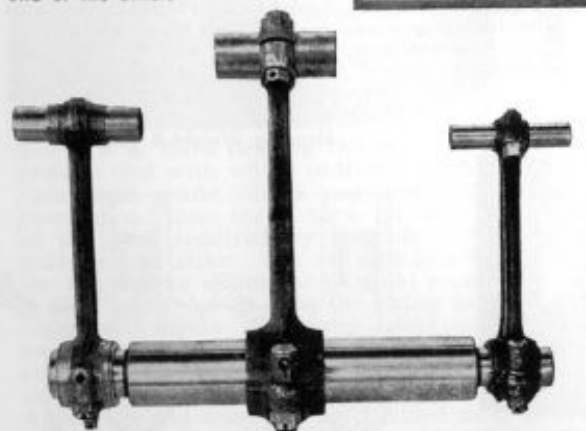
LEFT—Testing for bent rod. The picture shows only one point of the tripod touching the face of the fixture. The rod may be straightened and corrected without being removed from the fixture—saving considerable time and labor.



RIGHT—The rod is then removed and replaced in a reversed position, so that the babbitted end just touches the "L" shaped bracket. If the rod is offset, the amount of error will show up at one end or the other.



RIGHT—This picture shows a twisted rod which may have been caused by being held in a vise while removing the piston or loosening the nuts. The tripod is used in a reversed position. Piston and connecting rod assemblies can be tested for correct centers by the same method used for "offset" rods only.



MODEL "A"

FORDSON

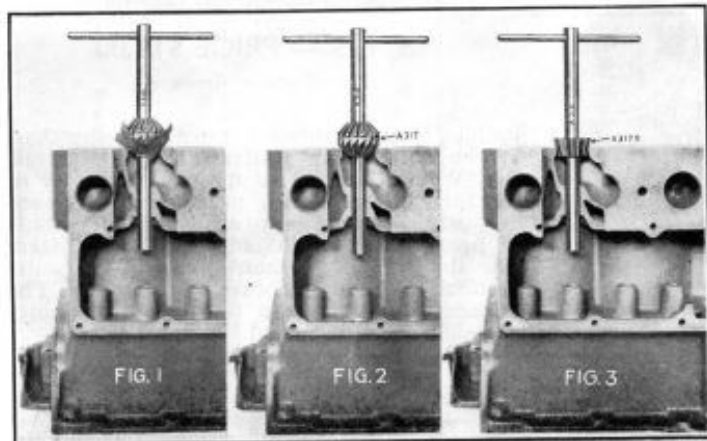
MODEL "T"

K R W VALVE RESEATER



- No. 316 Pilot only \$1.50
- No. 317 R & F 45° Cutter 3.00
- No. 317B 70° Cutter 2.00

K R W Valve Reseating Tools are correctly designed and accurately made. When used as suggested will satisfy the most critical user. The Pilot (No. A 316) is made of high grade tool steel, hardened and ground to a close fit in the valve guide opening. Its large diameter prevents bending or being thrown out of alignment with the valve seat. The cutter head is held in place by friction of a taper. The combined roughing and finishing cutter (No. A 317) is made of high grade carbon tool steel accurately cut, heat treated-hardened and then ground. One side is left unfinished for "roughing" down glazed surfaces. The finishing side is ground to a perfect 45 degree angle. By means of a special pilot these cutters can be accurately reground on a K R W valve refacing machine. They should always be kept sharp and "keen" to turn out good work. The 70 degree port renewing tool (No. 317B) as shown in Fig. 3 is also important for use after valve seats have become too wide. This cutter enlarges the port thereby reducing the width of the seat.

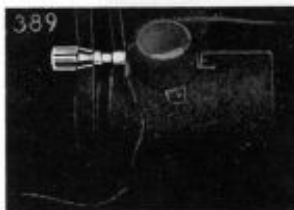


The glazed surface on a valve seat is so hard it will destroy any finishing cutter. To avoid this, place a piece of Carbo or Aloxite cloth (about 2 inches square with a hole in it) under the cutter as shown in Fig. 1, cloth side next to the cutter, and turn it on the valve seat 4 or 5 times, then remove the abrasive cloth and you can cut a perfect new valve seat in the soft iron without chatter or damage to the cutter. Thousands of good valve seat cutters have been condemned as no good by mechanics who did not give them a square deal. Do it right and get results.

★ K R W GENERATOR SOCKET WRENCH

No. A389 PRICE 25c

The K R W Generator socket wrench will save time removing or replacing the hex head cap screw which fastens the wires to the cutout. The proximity of the radiator makes this tool necessary.



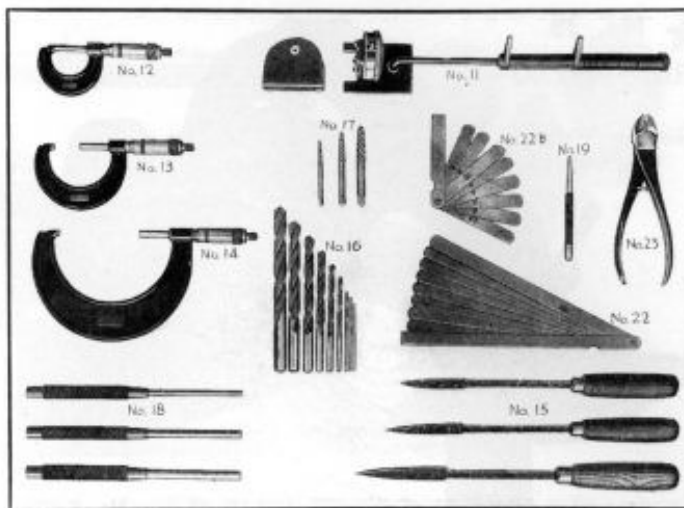
BRAKE BAND PLIERS

No. A413 PRICE \$2.00

Krauter Brake Band Pliers will save a lot of valuable time installing brake springs. They are made of tough forgings, accurately finished to stand real service.

GROUP 2

LOT PRICE \$40.00



- No. 11 Ames Indicating Dial Gage \$15.00
- No. 12 1 Inch Slocumb Micrometer with Friction Stop 5.00
- No. 13 2 Inch Slocumb Micrometer with Friction Stop 5.75
- No. 14 4 Inch Slocumb Micrometer with Friction Stop 7.00
- No. 15 Set (3) Bearing Scrapers 3.00
- No. 16 Set (9) Asst. Drills up to 1/2 Inch inclusive 2.00
- No. 17 Set (3) EZY-OUT Taps for removing broken cap screws, etc. 2.00
- No. 18 Set (3) Starrett drift punches95
- No. 19 Starrett Center Punch20
- No. 22 Feeler Gage with eight 9" Blades 1.50
- No. 22B Feeler Gage with eight 3" Blades90
- No. 23 Diagonal Side Cutting Pliers 5 1/2" size 1.00

This entire group of necessary precision tools for less than you would pay retail for the first four items. To protect the manufacturers of these well advertised tools, we have made a group price of \$40.00 for the entire lot. The usual retail store price would be \$54.75. ANY ITEM in this group can be purchased separately at the price shown. All of these tools are of the very best quality and absolutely necessary for motor repair work.

REAR HUB BORE GAGE

\$2.00 Each

Including 3" x 1/4" Feeler

★ No. A368—Car
No. AA407—Truck



The K R W Rear Hub Bore Gage is accurately made for testing wear and taper in Hubs. Test at top first where there is no wear, then at the bottom, the difference being the amount of wear or taper. A New Style Quarter-inch Feeler Gage is included.

Specify for '28-'29 or '30-'31 Trucks



K R W "All Position" MOTOR STAND

★ No. 35
PRICE \$22.00

Shipping Weight
192 Pounds



Interchangeable
For Both
Model "T" and "A" Motors

The K R W All-Position Motor Stand is well built—designed to give the operator every advantage of position and convenience. Time studies have proven that this Motor Stand cuts labor costs 20 to 50 per cent. over other makes. Now that you need new Motor Stands for Model "A" why not discard the older types and modernize your shop with K R W Stands. They will pay for themselves on time saved.

K R W MOTOR STAND BRACKET

No. A331 PRICE \$6.00

Shipping Weight 27 Pounds



The K R W Motor Stand Bracket will accommodate both Model "A" and "T" Motors. If you have an early model K R W Motor Stand which was built for Model T Motors only, you can bring it up-to-date with this assembly. All three castings are made of certified malleable iron—accurately machined in jigs.

K R W MOTOR STAND TOOL TRAY

No. 35B
\$2.00 EACH

Shipping Weight 17 Pounds



The Tool Tray now furnished with the K R W Motor Stand is a great convenience for holding Wrenches, Bolts and Nuts, Pistons, Valves, Push Rods, etc. It can be supplied for the earlier K R W Motor stands which were sold without it. K R W Policy is to make improvements, and so far as possible, adapt such improvements to equipment now in use—keeping it modern and up-to-date.

OIL PANS FOR K R W MOTOR STAND

No. 141
PRICE \$2.50

Crated Weight 20 Pounds

Following out the idea of cleanliness in Ford repair shops, we now offer an Oil Pan especially designed for the K R W Motor Stand. Size 20x34 inches with a $\frac{1}{8}$ inch wire beaded edge all around. This pan is made from black sheet steel, then hot galvanized. It keeps the oil, grease and dirt off the floor and promotes an interest on the part of the mechanic for cleanliness. We also make a similar size pan for front wheel repairs, shown on another page.



HUFFMAN "OILY WASTE" CANS

Approved by Underwriters Laboratories

No. 135 — PRICE \$12.00

Per Crate of Three



Reduce your insurance rates and fire hazard by installing underwriters approved Oily Waste Cans. You are paying plenty in the form of insurance premium if you are not using cans of approved design. Made of heavy steel, corrugated and galvanized. The lid is firmly attached and closes automatically unless purposely held open. The overlapping lid makes it airtight and fireproof. Capacity 6½ gal. Shipping weight, 36 lbs. crated.

HUFFMAN "FIVE QUART" OIL CANS

No. 134 — PRICE \$5.00

Per Crate of Four



The "Five Quart" Funnel Measure has been especially designed for oil service on Model "A" Fords. Carries the correct amount for a change of oil, saves mechanic's time making a second trip, prevents forgetfulness in putting in that last quart. It is well made and of durable construction. On account of low prices it is sold only in lots of four. Shipping weight 12 lbs.

HUFFMAN RADIATOR FILLER

No. 163 PRICE \$1.25 Each



The Huffman Radiator Filler is made of best black steel, corrugated for extra strength and hot-dip galvanized after assembly—rust and leak proof. Spout hooking downward, "stays put" in radiator opening—deep shouldered spout causes contents to flow easily at slight elevation. Swinging handle and vertical rear pouring handle permits of quick, convenient handling. Shipping weight 6 lbs.

K R W-MILBURN ACETYLENE WELDING OUTFIT



No. 130B

PRICE \$37.50

Shipped Direct from Factory—Baltimore

The K R W-Milburn Welding Outfit is one of the finest made and would ordinarily sell at nearly double our price. Milburn design and quality have long been recognized by the U. S. Army and Navy and hundreds of the largest industrial plants. This outfit will take care of practically every welding job in connection with an automobile. Shipping Weight 35 Pounds

INCLUDING

- 1 Special welding torch with (3) tips.
- 1 Double gauge, 2" Jr. oxygen regulator.
- 1 Double gauge, 2" Jr. acetylene regulator.
- 2 12½ ft. lengths of hose with fittings.
- 1 Pyro torch lighter.
- 1 Pair goggles.
- 1 Pound can combination flux.
- 1 Bundle welding rods for Alum.-Copper-Brass.
- 1 Bundle welding rods for cast iron.
- 1 Wrench for welding torch.
- 1 Book of instructions.



TURNER KEROSENE
No. 45. GASOLINE

prevents pumping too high pressure. Explosions are impossible.

TURNER "MASTER" BLTORCH

No. 136

PRICE \$6.75

Capacity 1 Quart—Weight 4½ lbs.
Guaranteed Indefinitely.

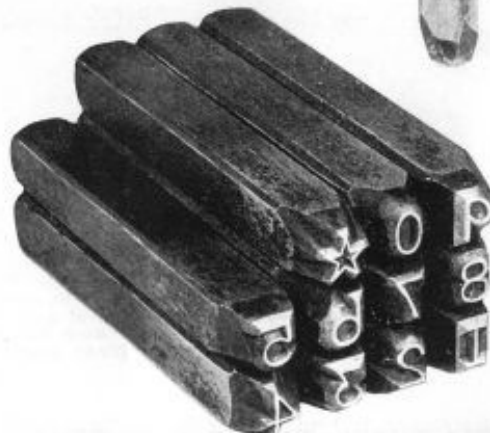
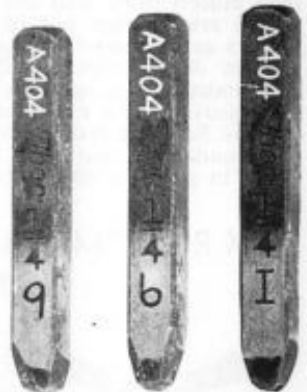
The Turner "Master" Bltorch embodies every modern improvement. Flame can be regulated for fine work or a large blast. The air adjusting tube (like a carburetor) provides entrainment of air for various gravity fuels, insuring perfect combustion—resulting in maximum heat. Automatic safety valve prevents pumping too high pressure. Explosions are impossible.

NEW DESIGN ENGINE BLOCK FIGURES

★ No. A404 PRICE \$1.50

For Three Stamps Shown

The design of engine numbers has been changed to lessen the possibility of outside individuals attempting to change engine numbers. The figures 1-6-9 have been changed. Dealers should immediately provide themselves with the new figures—One-Six-Nine. Ford Service Bulletin, February, 1931.



No. A404B

PRICE

\$5.50

COMPLETE
SET OF 11
AS SHOWN

WILSON-TURNER BABBITT MELTER

No. 4

PRICE \$9.00

Shipping Weight 20 Pounds

The Wilson-Turner Babbitt melter is guaranteed to heat Ford Babbitt hot enough to pour (cherry red) in 8 to 10 minutes. The orifice shoots more than 5 times as much gas as ordinary plumbers torches. Tank is made of heavy drawn steel with welded bottom. Pump is large and well made. Safety valve on tank prevents pumping too high pressure. Special metal pot is designed to prevent spilling and maintain uniform space all around it for quick heating. SAVE TIME and MONEY by using the right equipment.



OLD

☆A1234567890☆

NEW

☆AI234567890☆

Shipping
Weight
2 Pounds

K R W CLUTCH COMPRESSOR AND LOCATOR

For Single Plate Clutches

★ No. A353
PRICE \$5.50

Shipping Weight 10 Lbs.

The K R W Clutch Compressor and locator are considered very important tools. It is absolutely necessary to locate the clutch plate in perfect alignment with the splined shaft, on which it must slide, also the ball bearing in the flywheel before the clutch can be fastened in place—and for this purpose the locating plug is used. It is equally important that all clutch fingers be uniformly compressed so that the clutch can lay flat in the recess of the flywheel, while being bolted in place. The majority of single plate

clutch failures can be traced directly to carelessness on the part of the mechanic assembling the clutch to the flywheel. The Flat edge becomes bent, sometimes by the process of screwing down the cap screws unevenly and sometimes from other causes. In any event if the edge of the clutch is not absolutely flat, the Clutch proper is "cocked." The Cast iron clutch plate and the corresponding surface in the flywheel are thrown out of parallel so that when the clutch fingers are released, the pressure is applied to only a small section of the clutch lining, instead of its entire surface. This causes slippage and burning of the clutch facings. It is important that every clutch be inspected to see that the edge is flat and true, before being assembled. This tool is well made and may save its cost on the first job. It is also listed in our new \$90.00 group.

K R W "MULTIPLE DISC" CLUTCH COMPRESSOR

★ No. A301 PRICE \$5.00

Shipping Weight 10 Lbs.

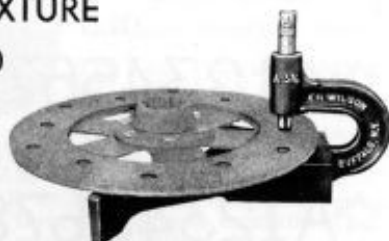
The K R W Multiple Disc Clutch Compressor is just as necessary as the one shown above. The early Model "A" Cars equipped with multiple disc clutches are now coming in for major repairs and general overhauling. Without this tool it is a difficult matter to correctly center and align the alternate clutch plates. The time saved on a half dozen jobs pays for it. Your mechanics are enabled to turn out the right kind of a job—at a profit to your shop. These were furnished with the original \$72.00 Group. Have you one?



K R W "BENCH TYPE" CLUTCH RIVETING FIXTURE

No. A376, PRICE \$2.50

Cut out the extravagance by refacing both "A" and "AA" clutch plates with this simple fixture. It is just right for the small dealer and service station. Shipping Weight 6 Lbs.

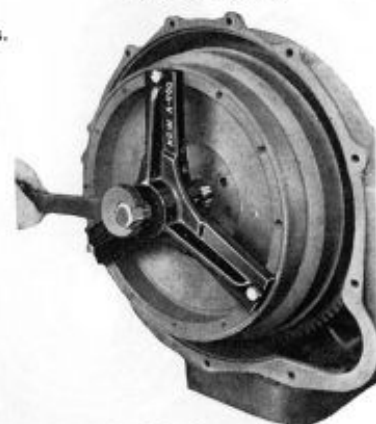


K R W FLY-WHEEL PULLER

★ No. A400

PRICE \$2.25

Shipping Weight 9 Lbs.



AVOID TROUBLE. The K R W Flywheel Puller will remove the flywheel without damaging the crankshaft flange or flywheel housing. Repairmen often try to "pry" the flywheel loose, usually straining or breaking the flywheel housing and bending the crankshaft flange. Much valuable time can be saved. **DO IT RIGHT.**

K R W FLY-WHEEL BALL BEARING DRIVER PULLER

★ No. A375A PRICE \$4.00 PAIR

No. A375B

Shipping Weight 4 Lbs.



Another pair of tools, seldom used, but very valuable when you need them. Consider the time wasted trying to remove a broken or worn ball race from the flywheel. It is important that the race be pulled out squarely, otherwise the recess in the flywheel will be enlarged and the new bearing loose—eventually causing trouble and mis-alignment of the transmission shaft. Every dealer should have a set.

NEW STYLE DRIVER — EXCHANGE PLAN

Ford is now using both New Departure and Federal Ball bearings in Fly-wheels. The Federal bearing is of slightly different design and requires a special driver to avoid damaging it. The New Driver shown will handle both types, and is now furnished in the set of tools shown above. **EXCHANGE PLAN**—To dealers who have already purchased the original set, we will supply the New Driver for \$1.00 in exchange for the old one if sent post-paid to our factory.



K R W "SPRING SHACKLE" PLATES

No. 380 PRICE \$1.00 Pair

Shipping Weight 5 Lbs.



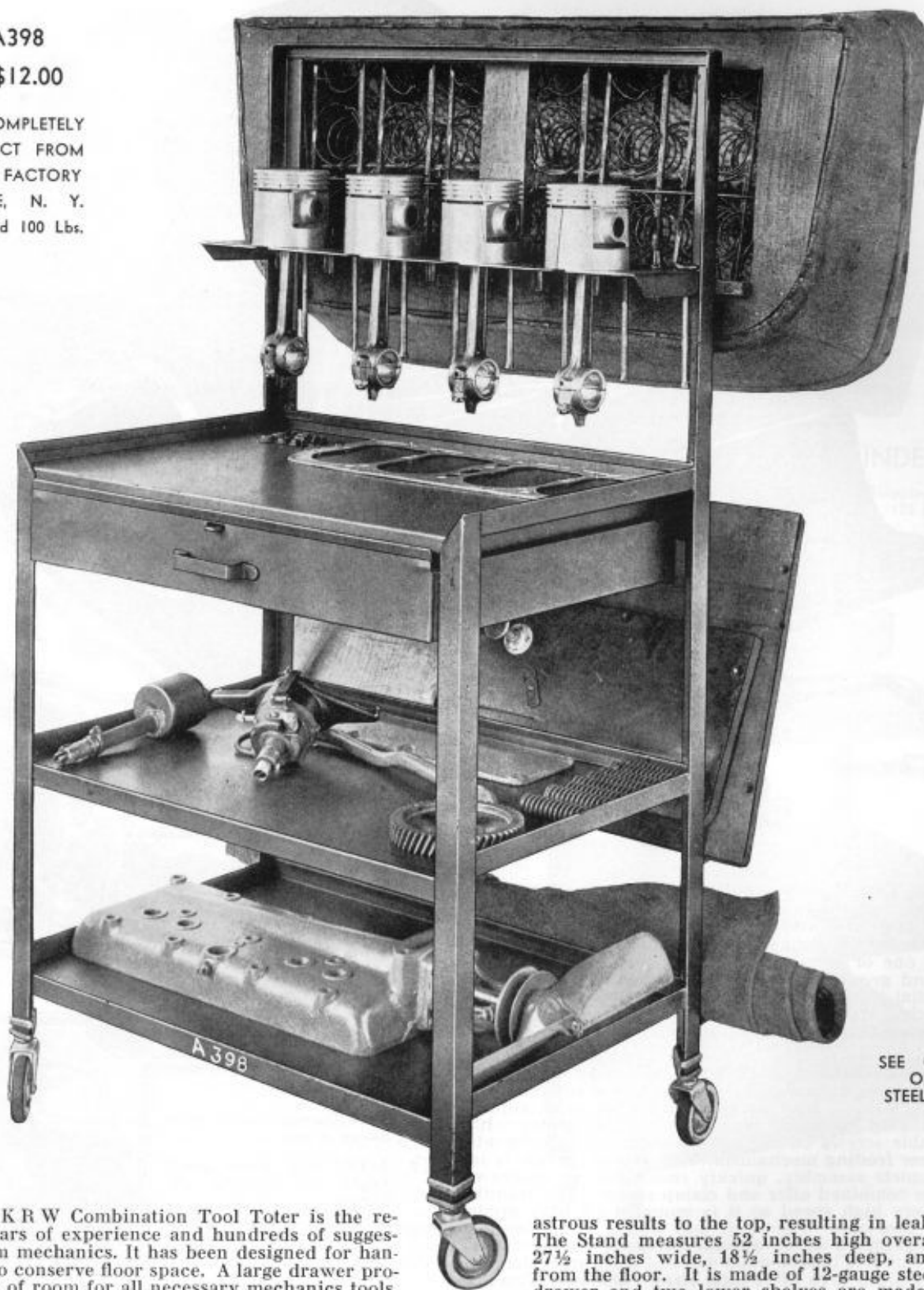
The K R W "Spring Shackle" plates are inexpensive and save considerable time and annoyance while removing or replacing spring shackles. They are correctly designed semi-steel castings of the proper height, etc., and will not break or wear out like wooden blocks. Well equipped shops should purchase several sets.

THE NEW K R W COMBINATION TOOL TOTER

No. A398

PRICE \$12.00

SHIPPED COMPLETELY
SET-UP—DIRECT FROM
OUR OWN FACTORY
AT ARCADE, N. Y.
Weight Crated 100 Lbs.



SEE OTHER TYPES
ON PAGE 78
STEEL EQUIPMENT
SECTION

THE New K R W Combination Tool Toter is the result of years of experience and hundreds of suggestions from mechanics. It has been designed for handiness and to conserve floor space. A large drawer provides plenty of room for all necessary mechanics tools. Two large shelves and the top furnish ample space for the storage of parts removed from the car while making repairs, and which are usually stored on the cowl, fenders and running boards. Special brackets to hold the front cushion, floor boards, and floor mat are also provided. This keeps these parts out of the dirt and grease, and off the roofs of the cars, where such parts are quite often placed by careless mechanics, with dis-

astrous results to the top, resulting in leaky roofs, etc. The Stand measures 52 inches high overall. The top 27½ inches wide, 18½ inches deep, and 32 inches from the floor. It is made of 12-gauge steel plate. The drawer and two lower shelves are made of 16-gauge steel. Angle steel frame is 1¼ x 1¼ x ½ inch. All joints are electric arc welded, instead of being bolted together. This construction insures rigidity. Castors have 3-inch rubber tired wheels. Dealers interested in bringing their shop up-to-the-minute for convenience and efficiency, which means greater profits, will install one for every mechanic. They inspire the confidence of good work with your trade.

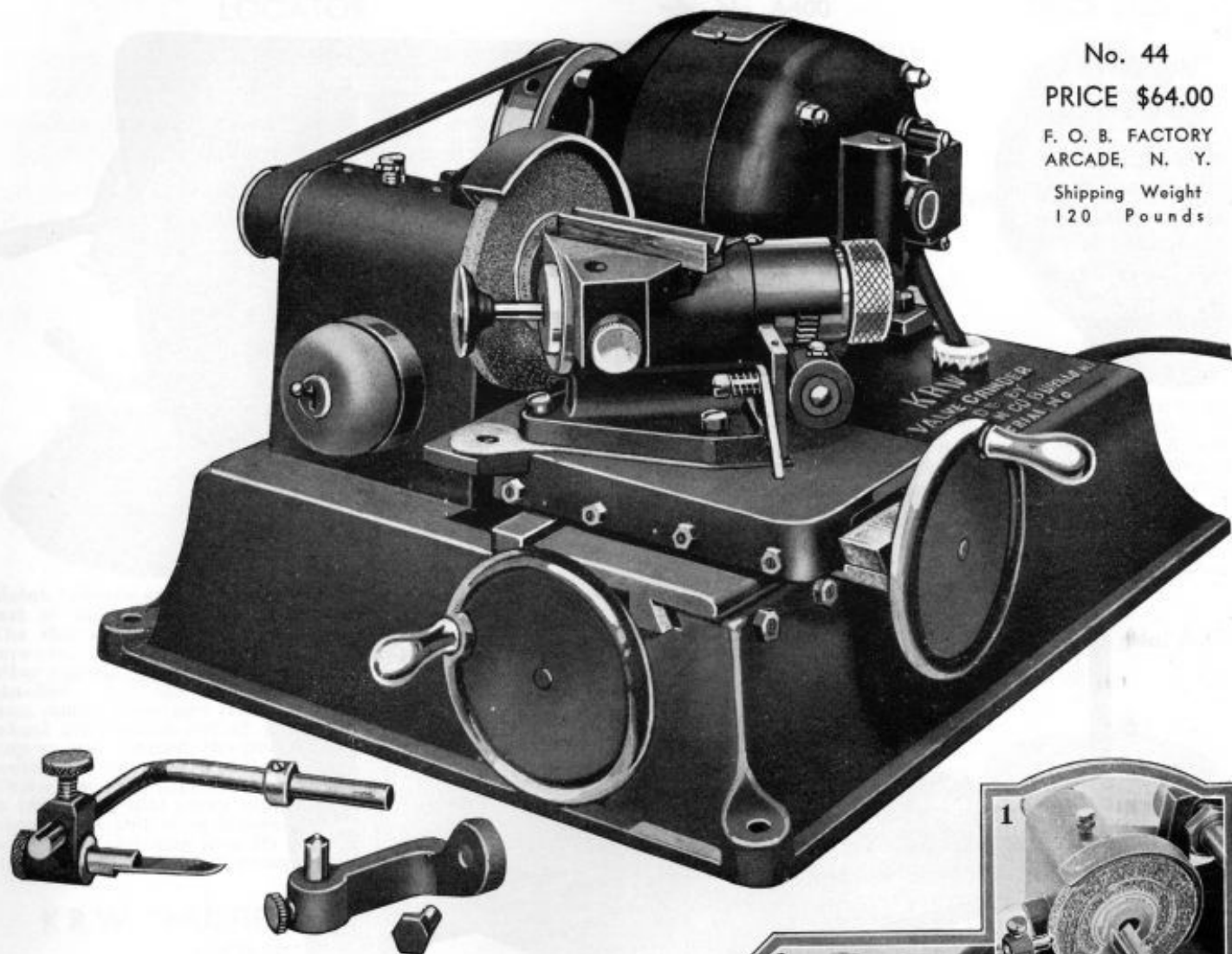
K R W "IMPROVED" VALVE REFACING MACHINE

No. 44

PRICE \$64.00

F. O. B. FACTORY
ARCADE, N. Y.

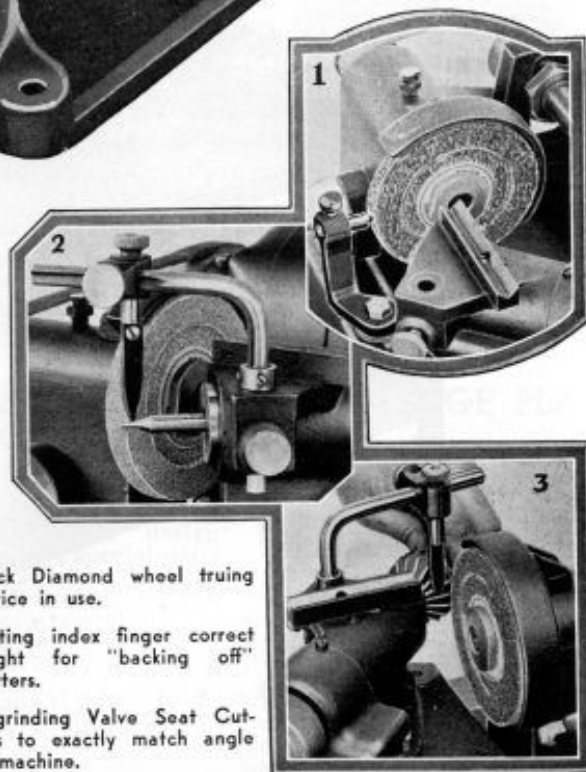
Shipping Weight
120 Pounds



THE K R W Valve Refacers are built complete in our own factory, by machine tool builders. They are designed for accuracy and long life. Every machine is "run-in" for several hours, then thoroughly tested under actual operation by refacing one or more valves; then finally tested with a hardened and ground arbor placed in the chuck with an indicating dial gauge contacting it $1\frac{1}{2}$ inches from the end of the chuck. We do not pass any machine showing a wobble of more than $\frac{1}{2}$ thousandth.

K R W Machines are simple in design; can be taken apart quickly for cleaning, reassembled and adjusted for accurate results by any good mechanic. All parts are interchangeable and replaceable. Most parts are provided with adjustments for taking up wear, such as adjustable slides with jibs, adjustable screws on the hand wheel, and adjustments on worm gear feeding mechanism. The wheel spindle is in itself a complete assembly, quickly removable by unscrewing only one combined oiler and clamp screw. The spindle travels at very high speed so it is mounted on high grade Fafnir ball bearings. The shaft and pulley are balanced. The chuck supplied is of special design for Model "A" valves, but will also handle other sizes of 45 degree, straight shank valves from $\frac{5}{16}$ to $\frac{1}{2}$ -inch sizes. A Wheel Truing device with a genuine black diamond point is supplied to keep your grinding wheel in perfect working condition. An Indexing device for regrinding valve seat cutters on this machine is included. Also a special Arbor (not shown) on which to mount the cutter while grinding.

Altogether we are giving you the finest machine built—regardless of price. If kept cleaned, oiled and in good working order it will outlast most any other. Make a comparison of those features mentioned above with any and all other machines and you will be convinced.



1. Black Diamond wheel truing device in use.
2. Setting index finger correct height for "backing off" Cutters.
3. Regrinding Valve Seat Cutters to exactly match angle of machine.

IMPORTANT

Having visited thousands of repair shops all over the world, I find TOO MANY valve grinders neglected—covered with dirt and abrasives, out of adjustment, wheels broken, scored and out-of-round due to mechanics using them in place of Bench Grinders. Is it any wonder customers are dissatisfied with the quality of work being turned out by these shops? Good work can be done only by keeping your precision equipment in perfect condition . . . K. R. Wilson.

MODEL "A" VALVE GRINDING OPERATIONS SIMPLIFIED

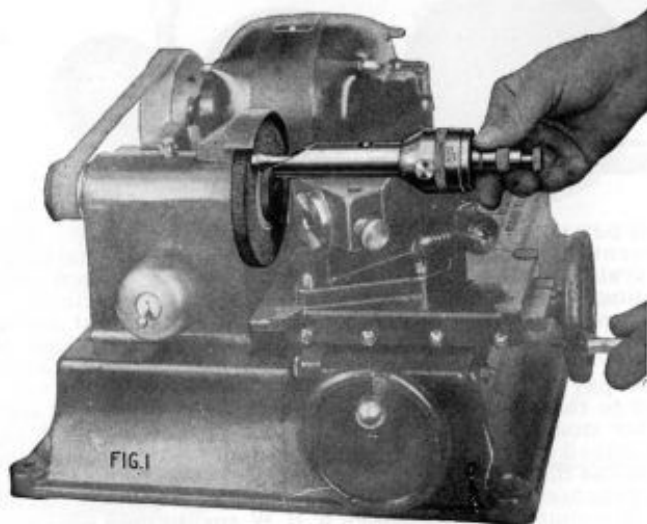


FIG. 1

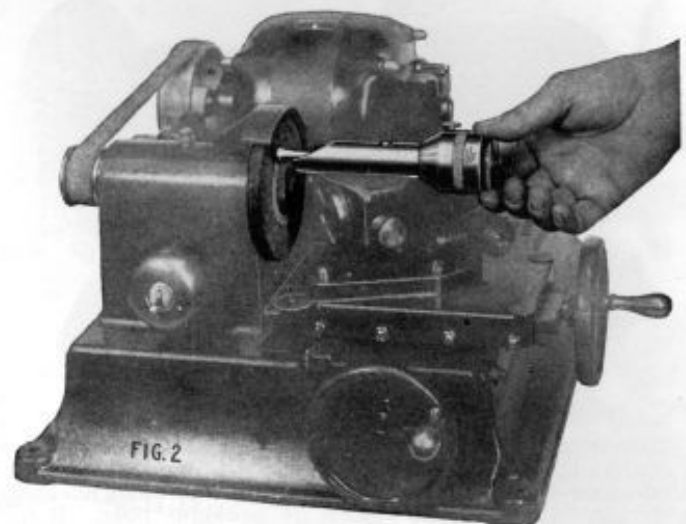


FIG. 2

K R W VALVE MICROMETER ATTACHMENT

No. 44A—PRICE \$7.50 Including 44A-44B.
44C is \$2.50 Extra.



Shipping Weight 2 Lbs.

The K R W Valve Micrometer Attachment eliminates all guess work in connection with grinding and fitting Model "A" Ford valves. It reduces labor costs equal if not lower than that of the Model "T." After the valves have been re-faced and "ground-in" to fit the seats of the engine block they are now ready to be checked for clearance. This operation is accomplished as follows:

Tool No. 44B is placed in the valve chamber with the lower end resting on the push rod, while the false valve head adjusts itself to the seat on the block. It is then locked in position with a thumb screw. This measurement is then transferred to the micrometer head as shown in Fig. 1, and adjusted so that the end of pilot just touches the face of the grinding wheel. The pilot is then removed and the micrometer head is turned to the right the number of thousands required for clearance, as shown in Fig. 2. The valve is then placed in position and the end is ground off squarely and accurately to one-half thousandth degree. No other operations necessary. By following this method uniform power is developed in all four cylinders and smooth operation is assured. It is important that valves seat squarely on the push rod in order that an oil cushion between those two parts can be maintained, otherwise they will be noisy. These results can be obtained only by the use of these K R W attachments.

These attachments fit all K R W-Van Norman and K R W built machines and can be attached in one minute.

K R W PORTABLE VALVE GRINDER STAND

No. 111—PRICE \$8.50 Shipping Wt. 125 Lbs.



Shipped Set-up crated from our own factory, Arcade, N. Y.

The K R W Portable Valve Grinder Stand will cut valve grinding operations in half in the average shop by eliminating the lost motion and time required going back and forth from the valve grinder to the car. This stand is so arranged that all the tools necessary for the operation can be carried to the car. A space is also provided for carrying the fender, seat and door covers, while the parts removed from the car, such as cylinder head, gaskets, distributor, nuts, etc., are placed on the upper shelf instead of on the floor or running board of the car, as is usually done by mechanics.

K R W VALVE STEM CLEARANCE GRINDER No. A349 PRICE \$25.00



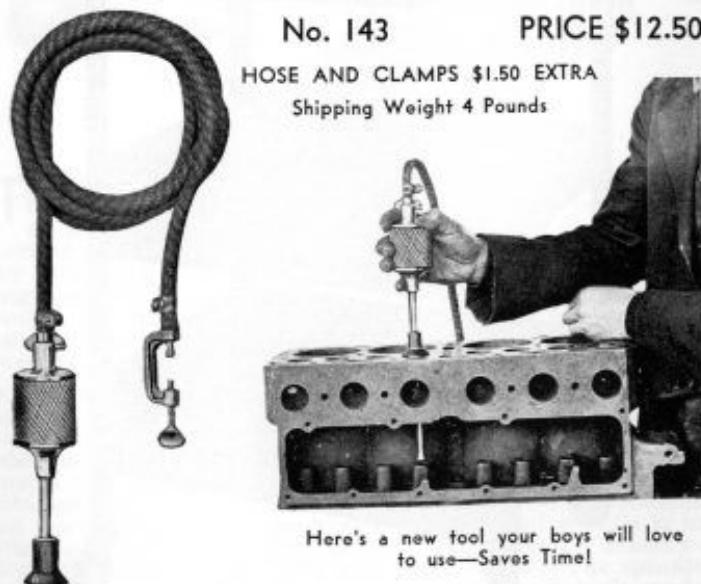
The K R W Valve Stem Clearance Grinder has been designed for dealers using other makes of valve grinders. This outfit includes our 44A micrometer attachment and valve measuring device. The same as shown on previous page. It enables mechanics to get very accurate results when grinding off the ends of the valve stems absolutely square and with the exact clearance desired. Other devices on the market can accomplish only about one-third of these results due to the fact that we eliminate all the check and double check operations by first measuring the exact distance between the valve seat and the push rod, then transfer this measurement to the micrometer head, then adjust dial for number of thousandths clearance desired, insert the valve and grind. The finished job is completed the first time, no waste of time assembling and disassembling valves and valve guide and testing with feelers to get the proper clearances. Saves its cost in 30 to 60 days, in the average shop. It is a very well made machine, equipped with one-eighth horsepower motor. Price given for 60-cycle, single phase. Add \$3.00 for other cycles, voltages or direct current. Shipping Wt. 62 lbs

AIR OPERATED VALVE GRINDER

No. 143 PRICE \$12.50

HOSE AND CLAMPS \$1.50 EXTRA

Shipping Weight 4 Pounds

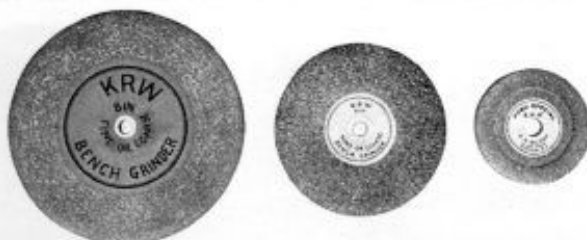


Here's a new tool your boys will love to use—Saves Time!

At last we are able to offer you the simplest and most perfect "Air Operated" Valve Grinder. It uses only two cubic feet of free air per minute. Speed is instantly adjustable from very slow to fast, with a turn of the wing nut at the top of the cylinder. Automatic throttle prevents operation and waste of air until a slight pressure is applied on the valve. It will turn out a much better valve grind job in a fraction of the usual time required by any other method. Unusual smoothness of operation is possible only because it is air operated, and no "shocks" are transmitted to the valves, as with electric driven machines, thru trains of gears, cams and levers. It is also powerful enough for the largest tractor valves.

Order One Today—You will say we have done a favor.

K R W SPECIAL GRINDING WHEELS



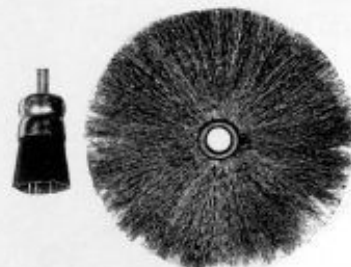
It will pay you to order Grinding Wheels from K R W. They represent the best we can find for their particular purposes. The grain, hardness and speed all play an important part. Grinding wheel manufacturers are continually working with us to produce exactly what we need to obtain best results on the machines we manufacture or sell. It is evident we can give you the correct wheels at a lower price than you would pay elsewhere and maybe get wheels wholly unsuited to the class of work intended. Order a few of each size for stock. They wear out, sometimes break. But you can't afford to hold up a job while you telegraph or telephone and then wait a few days for delivery. That unnecessary expense involved and lost profits many times offsets your investment—just another K R W suggestion!

No. 1 GW 8" x 3/4" with 1/2" Hole for 8" Grinder.....	\$2.00
No. 4 GW 7" x 5/8" with 5/8" Hole for 7" Grinder.....	1.75
No. 2 GW 6" x 1/2" with 1/2" Hole for 6" Grinder.....	1.50
No. 3 GW 4" x 1/2" Cupped Wheel, for Valve Grinder.....	.75
No. 5 GW 3" x 3" Cupped Wheel, Brake Grinder.....	2.00

An extra charge of 25c for packing when not shipped with other goods.

KRW WIRE BRUSHES

No. 93B, 5 or 6-in. \$1.00
No. 93 Carbon .60

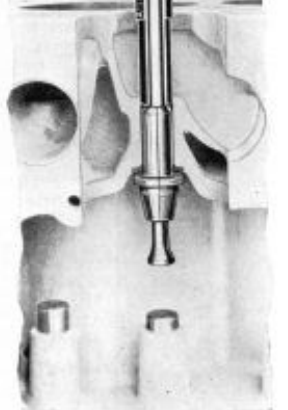


K R W Brushes are the finest made and are sold at prices about half usually charged. The Rotary Brush is used on bench grinders, the Carbon Brush in an electric drill.

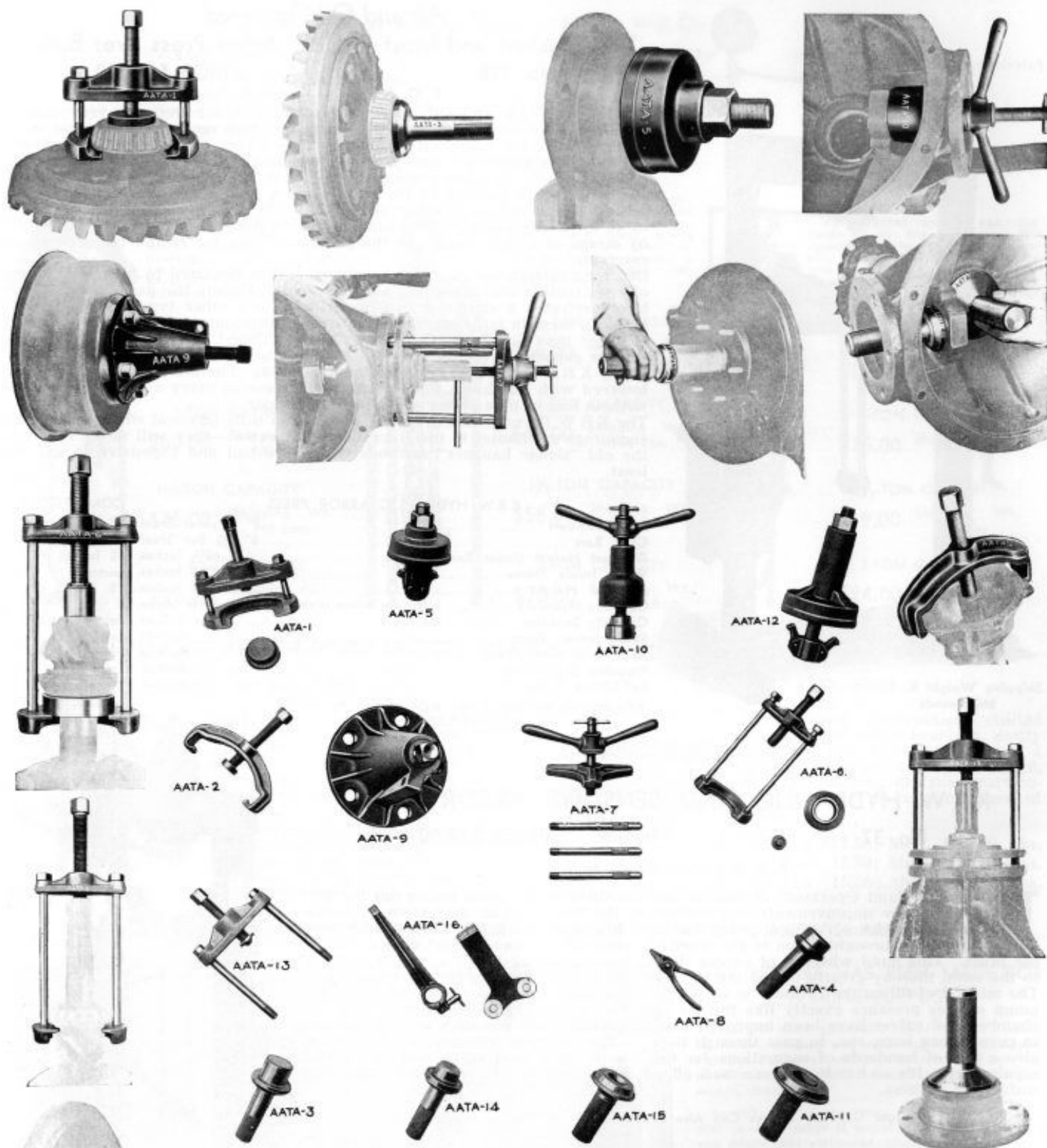
K R W "VALVE GUIDE" REMOVER

No. A113 PRICE 75 CENTS

The K R W Valve Guide Remover has proven superior to any other we have seen. It cannot possibly damage the valve stems or seats, as the under side of the valve head sets squarely on the surface of the driver. As shown in the two operation pictures below. Get one for every mechanic in your shop and save time and money.



★ K R W SPECIAL TOOLS FOR "AA" TIMKEN TRUCK AXLE



GROUP AATA

PRICE \$60.00

For Complete Set as Shown

This set includes all the necessary tools for servicing the new "AA" Timken truck axle, except wrenches. Every tool has been especially designed to obtain accurate results, quickly. Most of these items include some parts made of drop forgings to obtain maximum strength and long life. Sold only in complete sets. Every item is important and essential equipment.

Shipping Weight 95 Lbs.



NEW 1931 MODELS K R W HYDRAULIC ARBOR PRESS

Air and Oil Operated

"The Fastest and Most Flexible Arbor Press Ever Built"

No. 37B

PRICE \$112.00

F. O. B. Factory, Arcade, N. Y.

Patents Applied For



Shipping Weight K. D.
860 Pounds

THE K R W Air and Oil operated Hydraulic Arbor Press is very simple. There is nothing to get out of order. Just turn on the air pressure with hand valve on lower oil chamber. This forces oil up into the cylinder under approximately 1½ tons pressure, which is suitable for many light pressing operations. If more pressure is required, the hand valve is then closed and with the first stroke of the hand pump 8 tons pressure is developed, the second stroke 15 tons, third stroke 22 tons, etc., to a maximum capacity of 35 to 40 tons. By releasing the hand valve the plunger is automatically raised by means of a large spring in the cylinder. This forces the oil back to its reservoir.

Other manufacturers of garage equipment have hesitated to use this method of construction because of the excessive cost. During the past few years we have perfected a simple design, superior to any other type ever built. By building them in large quantities, entirely within our own factories, the price is lower than you would pay for an old fashioned, "screw type," unhandy, smaller capacity press.

The K R W Press is a strictly one-man outfit. The table is easily raised or lowered with one hand, thus permitting the use of every convenient position without loss of time or the assistance of a helper.

The K R W Press is so handy and requires so little physical effort that it will encourage mechanics to use it to the fullest extent—they will never revert to the old "sledge hammer" methods which are bad and expensive to say the least.

K R W HYDRAULIC ARBOR PRESS

		COMPETITORS
Side Members	7" Channel Steel	5" Channel
Cross Bars	6" x ¾ Bar Steel	5 or 6" x 5/8 Bar
Greatest Height Under Ram	60½ Inches	45 Inches
Width Inside Frame	32 Inches	Same
Greatest Height	81 Inches	78 Inches
Capacity Hydraulic	More than any Screw Press Made	? ? ? ? ?
Capacity Sensitive	2 to 5 Tons	Extra Cost
Straightening Press	Built-In	Extra Cost
Axle Pinion Gear Press	Built-In	Extra Cost
Propeller Shaft Press	Built-In	Extra Cost
Self-Lifting Table	Built-In	None

Attachments to convert old style presses to Air-Oil
Operation—\$25.00 per Set

K R W HYDRAULIC AND SENSITIVE ARBOR PRESS

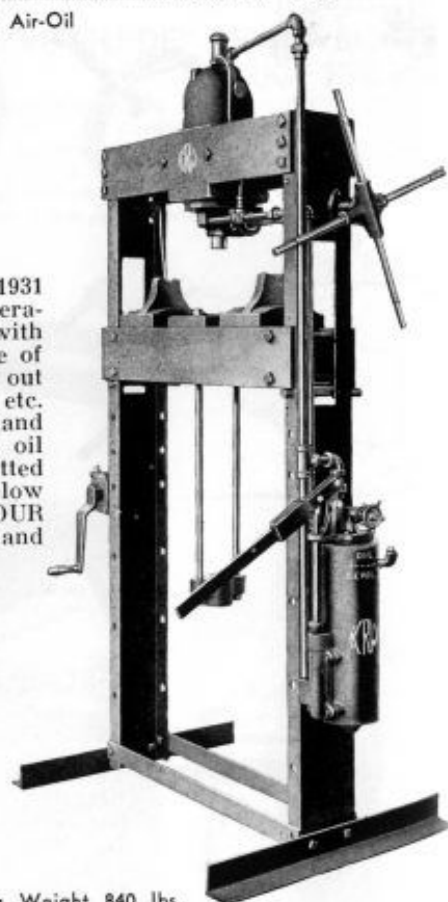
No. 37

PRICE \$99.00

F. O. B. Factory, Arcade, N. Y.

THE K R W "Hand Operated" Hydraulic and Sensitive Arbor Press comes out for 1931 with many new improvements and represents the last word in perfection of operation and convenience. A new piston has been invented which fills the cylinder with oil, as the ram is brought down to the work by means of the hand wheel on the side of the press. This hand wheel is of unique design having sliding handles, which pull out to the ends, thereby greatly increasing the leverage for sensitive press operations, etc. The method of filling the cylinder is so perfect that the very first stroke of the hand pump applies pressure exactly like the air operated press explained above. The oil chamber and valves have been improved and simplified. Side members are now slotted to permit long bars, etc., to pass through them. The various pictures shown below give a few of hundreds of suggestions for the use of this kind of a press in YOUR repair shop. It's so handy you can well afford to discard or sell your old press and install one of these.

Larger Capacity Presses Can Also Be Furnished. Write For Prices.



Shipping Weight 840 lbs.

HARRINGTON CHAIN HOISTS PAY DIVIDENDS BY SAVING LABOR

What Various Types of Hoists Will Do

BASED ON 1-TON UNITS	PEERLESS	SCREW	DIFFERENTIAL
Required pull on hand chain	78 pounds	71 pounds	216 pounds
Number of men	One	One	Three
Speed of hoist	31½ to 1	76 to 1	30 to 1
Average hoisting speed per minute	4½ feet	2 feet	1¼ feet

PEERLESS



Guaranteed for 5 Years

Heat treated alloy steel, machine cut gears, load wheel mounted on ball bearings, rolled steel frames, practically unbreakable, light in weight, entirely enclosed.

½-TON CAPACITY
\$45.00 Shipping Wt. 67 Lbs.

1-TON CAPACITY
\$60.00 Shipping Wt. 103 Lbs.

1½-TON CAPACITY
\$75.00 Shipping Wt. 143 Lbs.

2-TON CAPACITY
\$90.00 Shipping Wt. 187 Lbs.



SCREW HOISTS

Safe and simple construction, double load chain, steel suspension, bronze and steel worm gears completely enclosed and packed in grease, a thoroughly reliable job, fully guaranteed.

½-TON CAPACITY
\$36.00 Shipping Wt. 102 Lbs.

1-TON CAPACITY
\$44.00 Shipping Wt. 114 Lbs.

1½-TON CAPACITY
\$58.00 Shipping Wt. 157 Lbs.

2-TON CAPACITY
\$70.00 Shipping Wt. 227 Lbs.



DIFFERENTIAL HOISTS

"OLD RELIABLE"

For general garage use, for loads of one ton and less. We recommend this hoist, it is simple, efficient and so low in price you can afford to have plenty of them, they are "just right" for lifting motors, front and rear ends of pleasure cars.

½-TON CAPACITY
\$10.50 Shipping Wt. 40 Lbs.

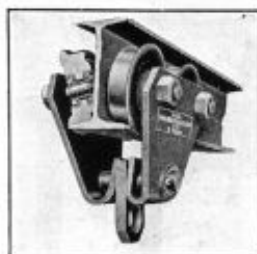
1-TON CAPACITY
\$15.00 Shipping Wt. 64 Lbs.

1½-TON CAPACITY
\$19.00 Shipping Wt. 96 Lbs.

2-TON CAPACITY
\$24.00 Shipping Wt. 154 Lbs.

PRICES QUOTED ARE FOR DIRECT FACTORY SHIPMENT OR OUR FACTORY STOCK, AT OUR OPTION

MODEL "D" TROLLEYS



Have rolled steel frames, chilled tread wheel. Double row ball bearings with alemit fittings, adjustable for various I beam sizes. Load moves with very little effort. This trolley is positively the best money can buy.

½ Ton \$16.00; Ship. Wt. 43 Lbs.
1 Ton 18.00; Ship. Wt. 58 Lbs.
1½ Ton 18.00; Ship. Wt. 58 Lbs.

All three sizes can be used with 6 to 9-inch standard I beam.

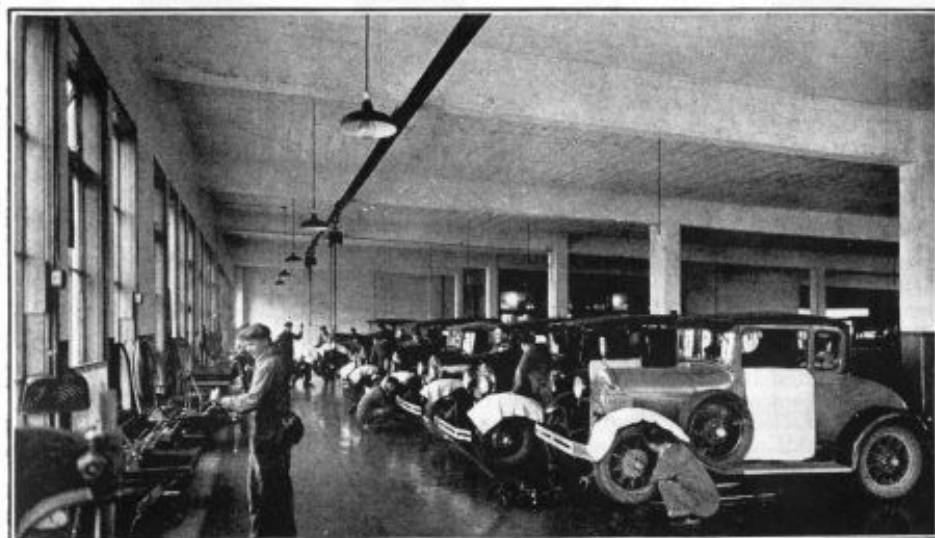
MODEL "F" TROLLEYS



Are all-steel construction, chilled wheel tread, roller bearings, easily adjusted for various sizes of I beams. They are small but rugged, light and strong, designed particularly for use on smaller sizes of track.

½ Ton \$13.50; Ship. Wt. 29 Lbs.
1 Ton 15.50; Ship. Wt. 41 Lbs.
1½ Ton 15.50; Ship. Wt. 41 Lbs.

ALL TROLLEYS SHIPPED DIRECT FROM FACTORY, PHILADELPHIA, UNLESS OTHERWISE ARRANGED



THIS PICTURE HAS BEEN MADE FOR A TRIPLE PURPOSE

First: To show unusual cleanliness—well painted floors, ceilings and side walls. Gives better lighting. Inspires public confidence. Your mechanics will think clean and keep clean—that means clean work.

Second: Notice the clean car and fender covers. A dirty cover is worse than none at all. If you doubt that statement, place a sheet of white wrapping paper under an ordinary seat cover and after the job is completed and the car tested, look at the paper. The dirt and grease on it represents what is ordinarily transferred to the cushions by dirty seat covers. Many customers avoid repair shops on this account.

Third: The best and least expensive Overhead Rail system is a six-inch I-beam. Supports are required only six to ten feet apart, final cost when installed is less than any other. It is better, neater and stronger. You can purchase beams locally.

K R W STEEL BENCHES

They Increase Production and Reduce Labor Costs—
Because They Are Designed for Definite Purposes—
They Save Floor Space



NOW MADE WITH ONLY ONE TOP OPENING UNLESS OTHERWISE ORDERED.

WITH PLAIN TOP— PRICE IS \$28.50

TRANSMISSION AND AXLE BENCH

No. 98—PRICE \$30.00 F.O.B. FACTORY
Jenkintown, Pa.

Shipping Weight 400 Pounds

THE K R W "Special" Transmission and Axle Bench is of "all-steel" construction and designed for hard service. The top is 96 x 42 inches, one-eighth-inch thick. Strongly reinforced underneath. The edges are formed square to give strength and neatness in design. This type of bench is placed in the center of the shop and used on all four sides. Vises and other equipment are easily attached as shown. During the past six years we have supplied several thousand of this type to Ford dealers, without receiving a single complaint. It is neat in design and helps to give that "dressed up" appearance to any shop. Shipped knocked down and crated for lowest freight rates. Drawings are furnished so that anyone can set it up in 30 minutes.

FOR VISES SEE PAGE 33

GENERATOR BENCH

No. 99—PRICE \$23.00

Shipping Weight 294 pounds.



PRICE QUOTED DOES NOT INCLUDE FORD PARTS, TOOLS OR EQUIPMENT SHOWN IN THE PICTURE.

THE K R W "Special" Generator and Starter Repair Bench has been especially designed for this class of work. It makes every operation more convenient and profitable. It is similar in construction to our other steel benches. It includes a lower shelf for the storage of parts while making repairs, also special brackets to hold finished generators and starters after they have been repaired and tested. The bench is 36 inches high, six feet long and 29 1/4 inches wide. A large drawer with lock is also provided for the storage of small tools, parts and equipment. Some changes have recently been made in the style and number of brackets furnished to accommodate the new "A" generators and starters instead of the Model T as shown in cut. The Bench is shipped knocked down for lowest freight rate. It can be assembled in half an hour. Instruction and blue-prints are furnished. Shipping weight 294 pounds. Segregate your electrical equipment. Put it in a department by itself. An imposing looking outfit will dress up your shop and inspire customers confidence.

K R W "INDIVIDUAL" MECHANIC'S BENCH

No. 106—PRICE \$11.00

F.O.B. Factory
Jenkintown, Pa.

Vise \$9.00 Extra

Shipped K.D.
Wt. 142 Pounds

SIZE
42 x 29 1/4 Inches



SAME GENERAL CONSTRUCTION AS TRANSMISSION AND AXLE BENCH

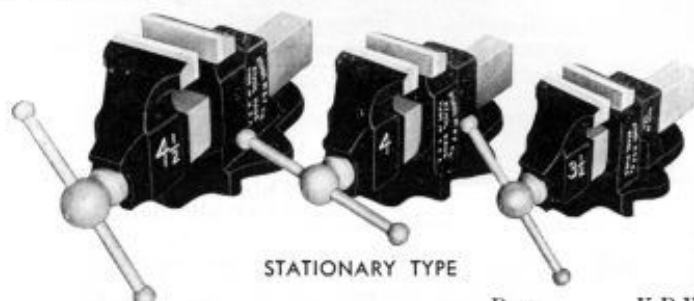
HUNDREDS of Ford Dealers have discovered that Individual Steel Benches are far superior to the old style wall type, wooden top, long benches. They are handy and provide plenty of room for all parts that would usually be put on a bench. The mechanic can work on all three sides, on many operations to a better advantage than when using continuous wall benches. At the low prices quoted, Ford dealers can well afford to clean house with their old style bench equipment and install "Individual" Benches for each mechanic. It means much greater production and a cleaner shop.

ATHOL MACHINISTS' VISES

MADE FROM SEMI-STEEL CASTINGS, TOOL STEEL JAWS

ATHOL VISES need no introduction. They are made for service and are the result of 40 years' experience making high grade vises. No details in material, workmanship or engineering skill have been omitted.

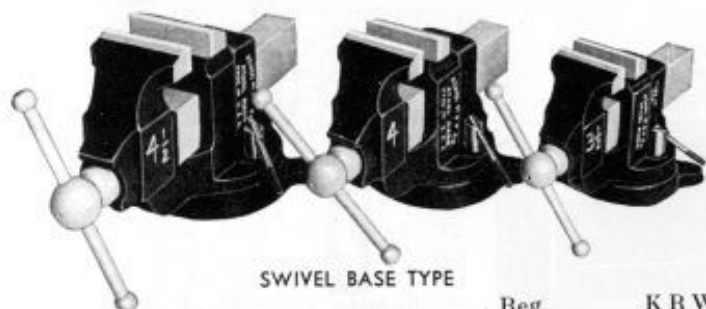
CASTINGS ARE SEMI-STEEL having a tensile strength of 35,000 lbs. SCREWS are made from selected steel and are turned with a buttress thread which has more strength than any other type, the screw ball is welded on. THE NUT is malleable iron and easily replaced if worn. TOOL STEEL JAWS—tool steel plates are welded direct to the faces of the semi-steel jaw castings, eliminating screws, studs, etc., which are always bothersome.



STATIONARY TYPE

Width Jaw	Opens	Weight	Reg. Price	K R W Price
3 1/2-in.	5 -in.	29 lbs.	\$11.25	\$ 8.45
4 -in.	6 -in.	44 lbs.	12.75	9.56
4 1/2-in.	6 1/2-in.	62 lbs.	15.50	11.65

Sizes up to 8-inch jaws can be supplied, write for prices.



SWIVEL BASE TYPE

Width Jaw	Opens	Weight	Reg. Price	K R W Price
3 1/2-in.	5 -in.	34 lbs.	\$15.00	\$11.25
4 -in.	6 -in.	54 lbs.	17.00	12.75
4 1/2-in.	6 1/2-in.	65 lbs.	20.00	15.00

These prices are F. O. B. our stock, Arcade, N. Y.
5% Additional Discount if ordered in lots of six or more.

No. 78—K R W WRENCH SET—\$4.50



Shipping Weight
5 Lbs.

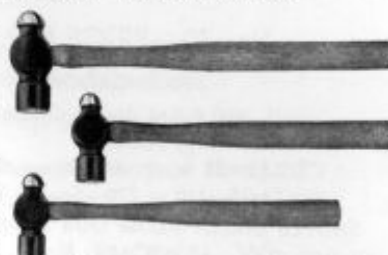
MECHANICS: Here's your chance to buy a set of five Williams high grade Machinist Wrenches and a set of three 6-8-10 inch Adjustable Wrenches of a well known make. This set is for the mechanic who wants quality tools.

K R W "BALL PEIN" HAMMERS

No. 82 PRICE \$2.00

FOR SET OF THREE

Shipping Weight 5 Pounds



The K R W Ball Pein hammers are made for Mechanics who appreciate quality — without extravagance. The sizes 12—18—24-ounce are correct for general garage use. Forged from tool steel, carefully machined and balanced, then heat treated. The faces are hardened and polished. Good handles are hand fitted to obtain "perfect balance." Boys: You can pay more but you cannot buy a more serviceable product.

COPPER HAMMERS



1 Lb.	\$.75 Each
1 1/2 Lb.	1.00 Each
3 Lb.	1.75 Each

GOOD MECHANICS use Copper or Lead Hammers on the majority of their work. They do the trick without leaving any evidence. Most every mechanic needs a set. The average car owner appreciates a job that is not battered. Sledge hammer mechanics are passing out of the service.

K R W BRASS DRIFTS

No. 382 PRICE \$1.85

SET OF THREE



This set of brass drifts has been made for the mechanic who cares, and is really interested in turning out high grade work without leaving any evidence. They are made in three sizes—1/2—5/8—3/4—x 8 1/2 inches in length. Weight per set 2 1/2 pounds.

K R W SCREW DRIVER ASSORTMENT



No. 84 PRICE \$2.25

SET OF FOUR



The K R W Screwdriver set is just what every mechanic needs. A Set that will stand up when used and misused in heavy duty service. The three largest have Oil Tempered, Tool Steel Blades running thru the handles and may be used to Drive-on, etc., without injury. The Handles are large and furnish plenty of gripping surface, the Ferrules are pinned to the blades. Compare Quality and prices. Shipping Wt. 4 lbs.

K R W FILE ASSORTMENT



No. 80

PRICE \$2.00

Including Handles



The K R W File assortment includes one each 6, 8, 10-inch Mill

Bastard and a 10-inch Vixen Babbitt file of high quality, also a set of hardwood handles. Compare prices with what you would pay elsewhere for the same quality and you will note considerable saving. Shipping weight 4 lbs.

K R W HALF IN. SPECIAL

No. 70—PRICE \$32.50

SPECIFICATIONS

SPEED—500 R.P.M. Under Ordinary Load.

WEIGHT—14½ Pounds.

CYCLES—25 to 60; Also Direct Current.

VOLTAGE—110 or 220—Specify Which.

SHIPPED DIRECT FROM OUR OWN FACTORY,
AT ARCADE, N. Y.



This K R W ½ "Special" is built expressly for us by the pioneers of the electrical drill industry. By selling this under our own brand, all advertising and selling expenses are entirely eliminated and Ford dealers save \$10.00—and \$12.50 to \$22.00 over other makes.

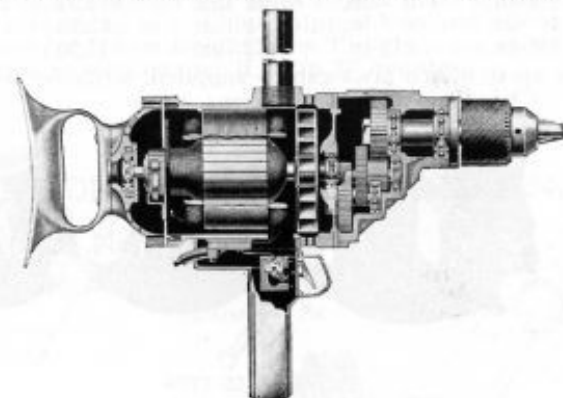
The K R W "Special" is a medium duty ½ Inch Drill which has been developed for general garage use and other purposes where the work might be severe but not constant. It will give a good account of itself in any kind of service within its drilling range. It is extremely well made. Being ball bearing equipped, it has less friction and the bearings will outlast plain bearings, as used in some competitive drills, many times. The gears are wide faced and husky for this size drill. A comparative test with any and all other medium priced drills of similar capacity will convince you of its superiority.

For honing we recommend a ⅝ or ¾ heavy duty drill as shown below. The half-inch drill is not designed nor recommended for this class of "constant duty work."

NOTE

All motors are universal wound and will operate satisfactorily on either direct or alternating current.

THE K R W "SPECIAL" IS BALL BEARING EQUIPPED
CHROME NICKEL STEEL, CUT GEARS,
BALANCED ARMATURES, PROPERLY VENTILATED



"PIONEER" HEAVY DUTY ¼ INCH DRILL

No. 70B

PRICE \$26.00

F. O. B. Factory, Louisville, Ky.

FOR 32-110-220 VOLTS—Specify Which

NO LOAD R.P.M. 2000—Weight 5.8 Lbs.



We are pricing the Pioneer heavy duty quarter-inch drill at about the same price as six most popular competitors charge for their light duty types, and saving you from \$10 to \$14 over the price they charge for their heavy duty drill. The Pioneer drill is full ball bearing and of sturdy construction throughout. In fact the motor is nearly as powerful as some manufacturers use in their one-half-inch light duty models. These low prices on all models of electric drills are possible only because we sell a large percentage of the entire factory output therefore no extras for advertising, promotional work or jobbers profits are added to swell the price.

"PIONEER" HEAVY DUTY HONE DRILL

No. 70C—PRICE \$62.50

F.O.B. Factory
Louisville, Ky.

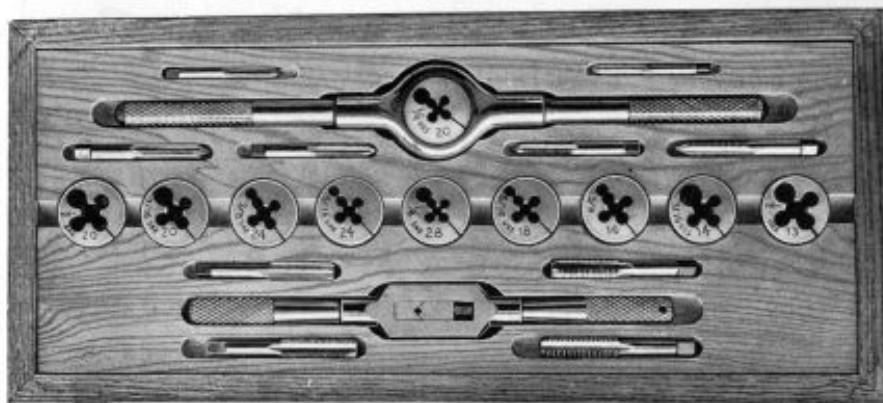
The Pioneer Heavy Duty Hone Drill has been especially developed for honing and other heavy duty garage use where the work is severe. A hone must have plenty of power behind it. The correct speed is about 450 R.P.M. to get best results.



Chuck cap, ⅝; Wt. 23 Lbs. Eight ball bearings in this model. Specify 110 or 220 voltage when ordering.

Prices on other types and sizes will be furnished on application.

K R W TAP AND DIE SETS



No. 79

PRICE \$15.00

Shipping Weight 15 Pounds.

THE K R W Special Tap and Die Set has been made to satisfy the most critical mechanic. It contains both SAE and USS Taps and Dies— $\frac{1}{4}$ - $\frac{5}{16}$ - $\frac{3}{8}$ - $\frac{7}{16}$ - $\frac{1}{2}$ inch. Each die is equipped with a collet (not shown in cut) to guide it straight while threading bolts or rods—a very valuable feature. Tap and Die Stocks are made from forgings accurately machined and cyanide hardened. We believe this outfit offers the greatest value in the country.

No. 79-B

PRICE \$21.00

Shipping Weight 18 Pounds

OUR Medium Size Tap and Die Set is suited to the needs of the average garage and service station. Contains three machine screw dies $\frac{6}{32}$ - $\frac{8}{32}$ - $\frac{10}{32}$. Five USS Dies $\frac{1}{4}$ to $\frac{1}{2}$ inch. Seven SAE Dies $\frac{1}{4}$ to $\frac{1}{2}$ inch. Two pipe dies $\frac{1}{8}$ and $\frac{1}{4}$ inch. Three machine screw taps $\frac{6}{32}$ - $\frac{8}{32}$ - $\frac{10}{32}$. Five USS Taps $\frac{1}{4}$ to $\frac{1}{2}$ inch. Seven SAE Taps $\frac{1}{4}$ to $\frac{1}{2}$ inch. Two pipe taps $\frac{1}{8}$ and $\frac{1}{4}$ inch. One No. 0 Die Stock. One No. 3 Die Stock. One T Handle Tap Wrench. One No. 2 Tap Wrench. All Dies have corresponding size Collets to guide them while threading bolts or rods. The K R W price of this set is so reasonable that no shop can afford to be without one.



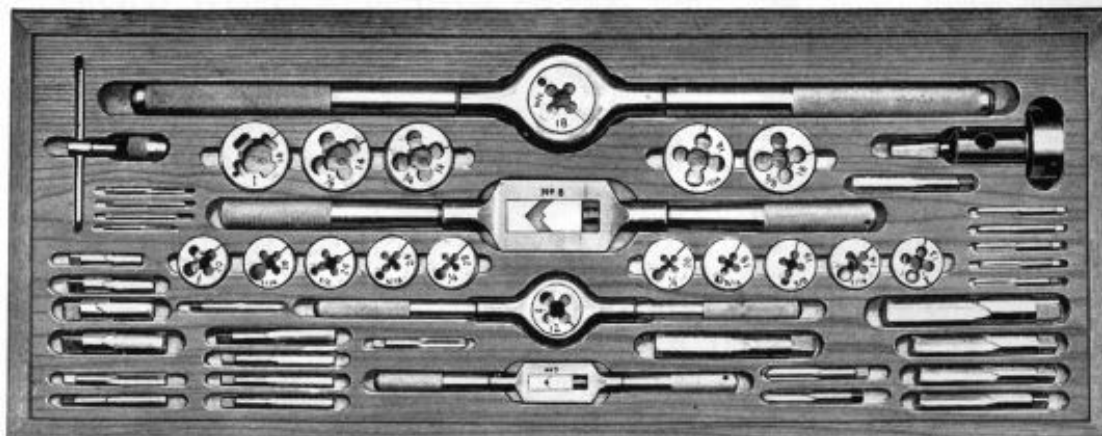
REMEMBER: "A workman is no better than his tools!" Increase your business by turning out better jobs. These tools enable you to do it.

No. 79-C

PRICE \$35.00

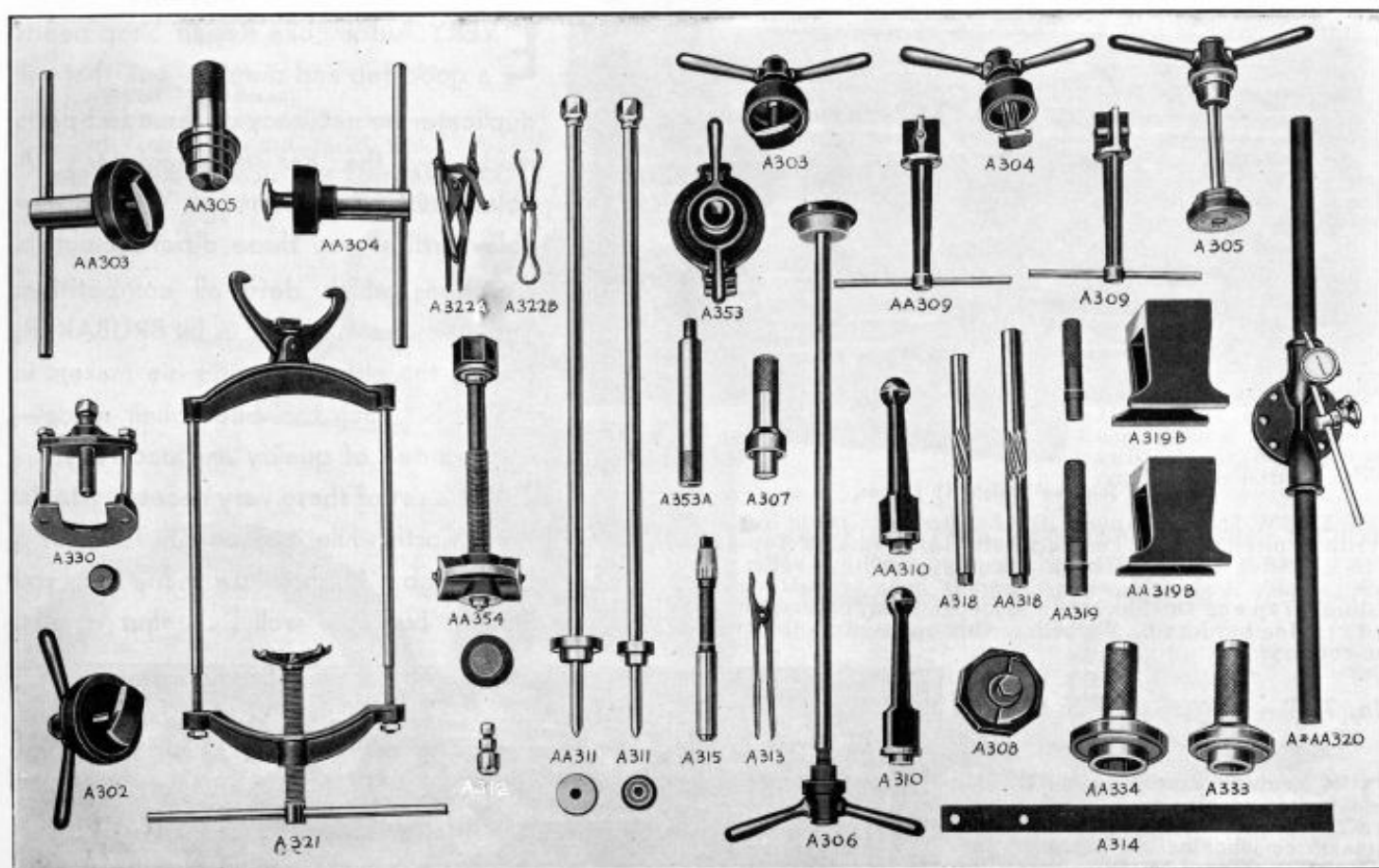
Shipping Weight 40 Pounds

OUR largest Tap and Die Set includes practically every tap and die that is ever used in connection with an automobile. It contains 17 Round Adjustable Dies, 18 Hand



Taps, 7 Machine Screw Taps, 1 T Handle Tap Wrench, 1 Bit Brace attachment, 1 Fifteen-inch stock, 1 Twenty-one-inch stock, 1 Eleven-inch Tap wrench, 1 Twenty-one-inch Tap wrench. All popular sizes of Taps and Dies in USS and SAE are included. Also $\frac{1}{8}$ to $\frac{1}{2}$ Pipe Taps and 6 to 14 machine screw threads. All dies are equipped with corresponding collets (not shown in cut) to guide them straight while threading bolts and rods. We do not believe it is possible to buy a better outfit for less than double this price.

★ THIRTY-THREE NECESSARY TOOLS FOR \$90.00



This group of K R W tools shown above are all necessary and important for repairing Model A Cars and Trucks. The former selling price as individual items totalled \$123.50. By making the shipment in groups we cut handling and shipping costs to a new low lot price of \$90.00

A302	R B Race Puller—Axle Housing	\$ 3.00	A314	Crankshaft Turning Bar—A	1.25
A303	R B Race Puller— A Front Wheel—Large	3.00	A318	Steering Spindle Bushing Reamer—A	4.00
AA303	R B Race Puller—AA Front Wheel—Large	3.75	A319	Steering Spindle Bushing Driver and Anvil— A	2.75
A304	R B Race Puller— A Front Wheel—Small	2.75	AA319	Steering Spindle Bushing Driver and Anvil—AA	4.00
AA304	R B Race Puller—AA Front Wheel—Small	3.50	A320	Flywheel Dial Indicator Gage—A	12.00
A305	R B Race Press— A Both Wheel Bearings	3.75	A321	Rear Spring Assembly Press—A	5.00
AA305	R B Race Driver—AA Both Wheel Bearings	3.00	A322A	Valve Lifter—A	1.00
A306	R B Race Press— A For Axle Housing	2.75	A322B	Valve Spring Seat Extractor and Replacer	
A307	R B Cone Driver— A Differential Assembly	1.50	A330	Differential Cone Puller—A	3.25
A308	Pinion Gear Puller—A	2.75	A333	Grease Retainer Driver— A	2.00
A309	Propeller Shaft Puller—Replacer— A	2.25	AA334	Grease Retainer Driver—AA	2.25
AA309	Propeller Shaft Puller—Replacer—AA	2.25	A353	Clutch Compressor and Locator—A	5.00
A310	Propeller Shaft Grease Retainer Placer— A	1.50	AA354	Truck Wheel R B Sleeve Puller—Replacer	5.00
AA310	Propeller Shaft Grease Retainer Placer—AA	1.50	A355	Piston Pin Driver—A	2.00
A311	Rear Axle Housing Grease Retainer Placer— A	2.50	AA384	Steering Spindle Bushing Reamer—AA	5.00
AA311	Rear Axle Housing Grease Retainer Placer—AA	2.75			
A312	Cylinder Head Stud Remover—A	1.25			
A313	Piston Ring Extractor—A	1.00			
			Total		\$99.50

Any Item Will Be Sold Separately
At the Individual Price Quoted

Shipping Weight 165 Pounds

SEE THE FOLLOWING PAGES FOR INSTRUCTIONS HOW TO OPERATE THESE TOOLS



This cartoon may exaggerate a bit, but some shops still use "sledge hammer methods" in removing bearings when they should use K R W Pullers.

AXLE HOUSING R. B. RACE PULLER



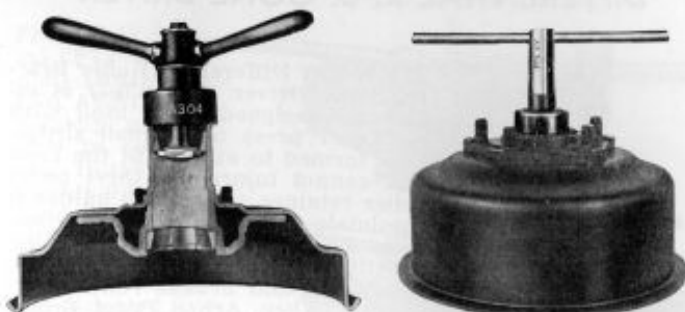
The K R W Rear Axle housing bearing race puller (No. A302) is another one of those necessary tools. The race must be pulled out absolutely straight. Otherwise if "cocked" it will enlarge the diameter of the bearing recess so much that the new bearing will be loose and may turn in the housing. The puller is a drop forging, accurately machined and heat treated. The bonnet is a semi-steel casting machined to fit squarely against the shoulder of the bearing housing. The handle is malleable iron.

FRONT WHEEL R. B. RACE PULLER



The K R W Front Wheel, large roller bearing race puller (No. A303) is similar in design and construction to A302 described above and exactly as important. The AA303 for the truck is an exact duplicate except larger. When the Arbor press group No. 5 as shown on page 40 is used, this A303 Tool is not required.

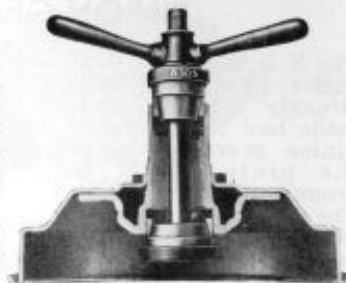
FRONT WHEEL R. B. RACE PULLER



The K R W Front Wheel, small roller bearing race puller (No. A304) and (AA304) are similar in design and operation to those previously described, except made to fit the smaller, "out end" bearings.

ROLLER BEARING RACE PRESS

The K R W Roller Bearing Race Press (No. A305) replaces both the large and small bearings simultaneously, or either one separately. Both races must go in "squarely" and be parallel to each other, otherwise the rollers will be damaged and the wheels become loose and dangerous. Avert accidents by doing this job right. See page 40. When Arbor Press group is used this tool is not necessary.



ROLLER BEARING RACE DRIVER

The K R W Roller Bearing Race Driver (No. AA305) for Truck front wheels is designed for Arbor Press operation. It has been especially made to handle both large and small bearings—made from a drop forging of alloy steel. It is accurately machined to closely fit the bearings, then heat treated to make it tough and durable. The carrying capacity and trouble-free operation of a truck depends to a large degree on its bearings. Don't take a chance—it may cost you future sales—maybe a human life.

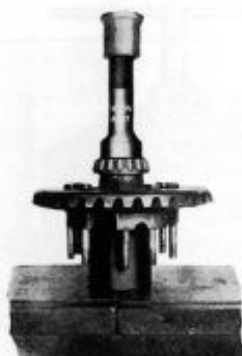


AXLE HOUSING R. B. RACE PRESS



The K R W Axle Housing Roller Bearing Race Press (No. A306) is just as important as the others. It draws the race squarely into position—absolutely in line with the axle shaft. It is very important that this bearing is properly seated. Any slight misalignment would make the differential housing and ring gear wobble, cause noisy gears and excessive wear. The cartoon on this page was inspired after seeing mechanics trying to remove this bearing by the sledge hammer process. Up-to-date dealers using this equipment are proud of the work they turn out.

DIFFERENTIAL R. B. CONE DRIVER



The K R W Differential Roller Bearing Cone Driver (No. A307) is especially designed to be used with an Arbor press or a small sledge. It is formed to exactly fit the cone and cannot injure the sheet metal roller retainer. The pilot guides it absolutely straight. Again we say these bearings must be assembled exactly right, otherwise noisy gears, roughened and broken rollers will result. When Arbor Press Group No. (5) of Pullers and Drivers is ordered this tool is not required.

PINION GEAR PULLER

The K R W Pinion Gear Puller (No. A308) is a strongly designed, well made tool for removing pinion gears. It grips the pinion entirely around the base of it. The puller is made in two halves, (machined in pairs) and they are held together with a strong malleable iron collar which prevents any spreading. The screw is large in diameter, made of alloy steel heat treated. Needless to say a husky tool is necessary for this job. WE have it.



PROPELLER SHAFT SLEEVE PULLER AND REPLACER



The K R W Propeller Shaft Sleeve Puller—Replacer (No. A309 and AA309) has its place too. A quarter turn and a yank on the handle takes out this hardened roller

bearing sleeve, without damage. Reverse the operation to replace it. Without these tools mechanics often spend hours trying to remove it—and oh what-a-mess when they are finished. Save your time and money from now on by using the right kind of equipment, designed especially for the job. The truck tool is slightly larger but operates in the same manner.

PROPELLER SHAFT GREASE RETAINER PLACER

The Propeller Shaft Grease Retainer Placer (No. A310 and AA310) are all important and necessary tools. The grease retainer must be placed in position "exactly right" and without the slightest damage otherwise the job is a total loss. The K R W Tool is correctly formed to fit the back of the retainer. The Pilot prevents damage to the leather collar. Four guides on the tool insure the retainer going straight into place and remaining tight—to accomplish the results for which it is designed. Makeshift tools usually mean damaged retainers and an unsatisfactory job. The truck tool is larger, but operates in the same way.



MECHANICS—Read the K R W NEWS regularly. It's a new monthly magazine devoted to the interests of service managers and mechanics. Full of valuable information, hot off the griddle.

REAR AXLE HOUSING GREASE RETAINER PLACER

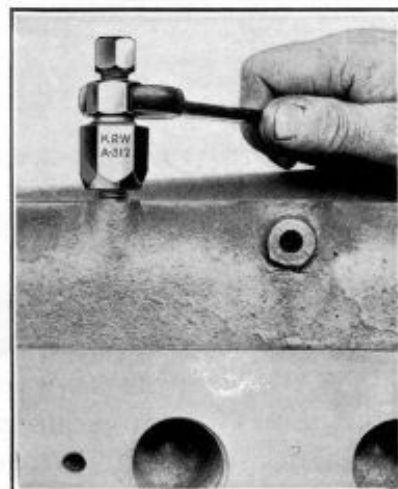


The K R W Rear Axle Housing Grease Retainer Placer (No. A311) does the job right. A Pilot plug is placed in the outer end of the axle housing for a guide—then the grease retainer is placed in position on the specially formed collar of this tool, which holds it securely in place. The pilot on the collar shapes and centers the leather washer for a correct fit and perfect alignment with the axle shaft—the extension pilot guides the tool into the plug so that when the assembly is pushed down it will seat squarely against the shoulder in the housing provided for it and without any damage to the retainer. Sometimes a tap of a hammer on the end of the tool is necessary to seat it in place due to the slight variation in the sizes of the retainers. Without this or a similar tool, it is impossible to install a grease retainer that will not leak.

The (AA311) truck tool is similar except larger and is used only with Ford Banjo type truck axles.

CYLINDER HEAD STUD REMOVER

The K R W Cylinder Head Stud Remover (No. A312) is simple in construction and does not damage the threads in any way. It is made similar to a chuck, the jaws of which grip the thread grooves instead of the top of the thread. When tightened down in place as shown, becomes as rigid as if it was the head of a bolt. To release, loosen the top and center nuts and it can then be easily removed with the fingers. All three parts are made of special tough alloy steel, accurately machined and heat treated for long service. Watch your mechanics do this job in any other way and you will hasten to order a supply of these tools for them.



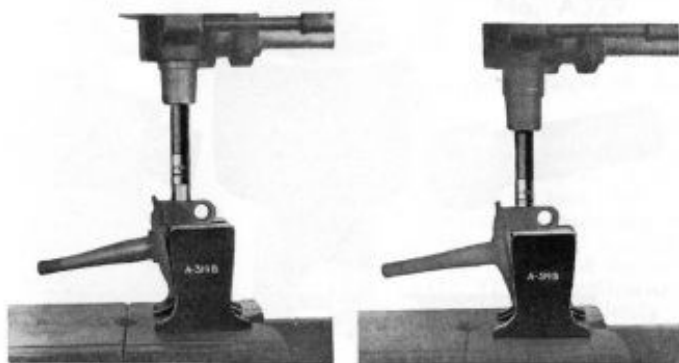
PISTON RING EXTRACTOR



The K R W Piston ring extractor and replacer (No. A313) was designed especially to be used with aluminum pistons—and is considered one of our most valuable tools. The piston ring is evenly expanded, without distortion and lifted clear of the piston without damaging the ring grooves or its smooth and accurate surfaces. Many mechanics who do not realize the cost and importance of producing this accuracy, still use broken hack saw blades, corset stays, files, screw-drivers, etc., doing great

damage to the ring grooves and body of the piston. Every "nick" means a high spot to cause friction and tightness. Ofttimes rings are stuck in the grooves because of being "nick-ed" or too little clearance has been allowed. The rings cannot function. Pistons may feel snug in the cylinder only to quickly wear loose, as high spots and nicks wear down. There is no danger of doing this job too well. Use the best equipment you can get and do the job right.

STEERING SPINDLE BUSHING DRIVER REMOVER WITH FIXTURE



The KRW Spindle Bushing Driver and Remover, with fixture (No. A319) quickly pushes the old bushing out and the new bushing in without damage. The fixture supports the steering spindle body so that it cannot be distorted by the pressing operations. The bushings are driven in straight, without shearing or upsetting which means a saving of time and a much better job when a piloted reamer is used—which depends on the accuracy of the unreamed bushing to guide it. The Truck (No. AA319) is made identical except larger. Abandon the old sledge hammer method which is costly and totally unsatisfactory. Your customers want a real job—the kind that will stand up like the original set.

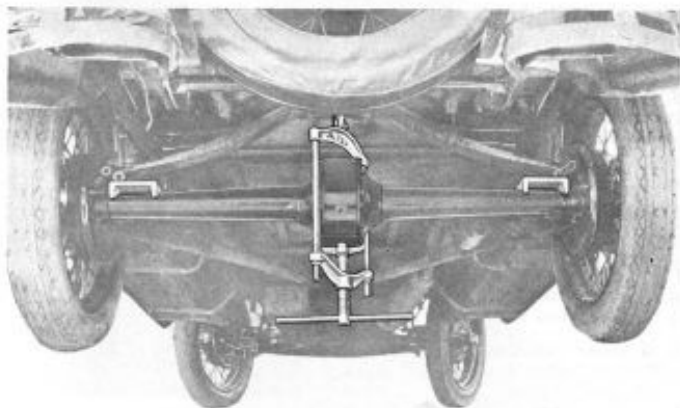
STEERING SPINDLE BUSHING REAMER



The KRW Spindle Bushing Reamer (No. 318) is designed to give results. The long pilot is a nice fit in unreamed bushings which have been pressed in place as above described. This guides the reamer straight through both bushings, giving maximum bearing surface. Spiral fluted to prevent chatter and give that velvety smoothness and accuracy, so hard to maintain with a straight flute. A Reamer for this job must be more than "just a reamer" and this one will fulfill your expectations. The (AA384) is

the same design except larger.

REAR SPRING ASSEMBLY PRESS



The KRW Rear Spring Assembly Press (No. A321) serves a very definite purpose. It fits all older models and nearly all of the newest types except two. Makes short work of drawing the spring down to remove or replace spring shackles. It is strong and durable. All castings are Malleable iron. Spring Shackle plates shown in this picture are listed on page 24.

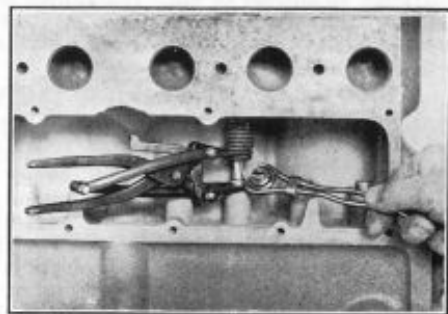
FLY-WHEEL DIAL INDICATOR

The KRW Special Fly-wheel dial indicator (No. A320) is absolutely necessary to check—for loose and wobbly flywheels bend crank-shaft flanges, mis-aligned main bearings, warped and distorted fly-wheel housings. No dealer can afford to take the chance of assembling a motor without testing every operation progressively—to insure perfect alignment of all parts. Example: If the fly-wheel wobbles due to a bent crank-shaft flange, dirt or metal between the flange and fly-wheel recess—one or more bolts not sufficiently tightened or mis-aligned main bearings—then the motor will vibrate and show lack of power and speed. If the fly-wheel housing is warped or distorted, then the transmission assembly will be thrown out of alignment, causing excessive wear on the gears, shafts and bearings, often throwing them out of engagement while pulling a load. Again its the old story "an ounce of prevention is worth a pound of cure". Do it right in the first place. It means a pleased customer—a good reputation—and a satisfactory profit to your shop.



VALVE SPRING LIFTER — VALVE SPRING SEAT EXTRACTOR-REPLACER

The KRW Valve Spring Lifter (No. A322A) is a real labor saver. Its unique design produces several distinct advantages over other makes. It is small in size, yet powerful in operation. Lips on upper jaw are very thin and warped to conform to the spiral of the valve spring. Both jaws are nearly parallel when opened to position shown. It is convenient to operate on any of the valves. Locking device, with hardened ratchets holds the valve spring at any height while the valve spring seat is being removed or replaced. Made entirely of Drop forgings, of tool steel, heat treated for toughness and long service. The Valve Spring Seat Extractor and Replacer (No. A322B) is an important accessory and will save lots of time, now lost by antiquated methods—and lots of pain from pinched fingers.

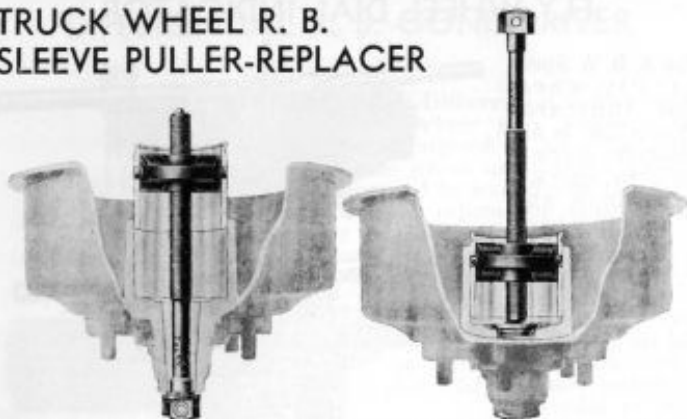


CRANKSHAFT TURNING BAR

The KRW Crankshaft Turning Bar (No. A314) is very useful while fitting bearings and overhauling motors. Every dealer should have at least two or three.

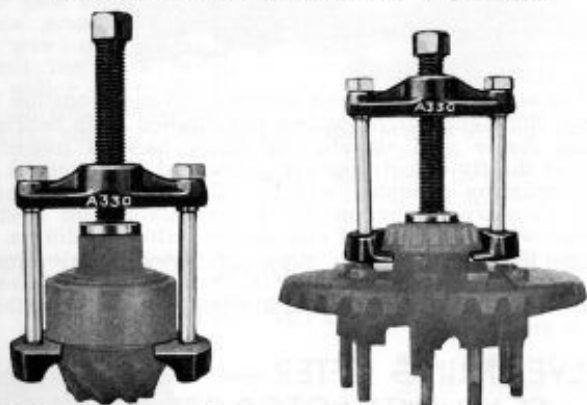


TRUCK WHEEL R. B. SLEEVE PULLER-REPLACER



The KRW Truck wheel roller bearing sleeve puller and replacer No. AA354 will do the job right. All parts are extra strong and made of drop forged alloy steel, heat treated to make it tough and durable. A ball bearing is placed in the end of the screw to reduce friction. It removes or replaces these sleeves with ease.

DIFFERENTIAL CONE PULLER



The KRW Differential Cone puller (No. A330) serves two purposes as shown in cut. The puller plate and bar are forged from very tough alloy steel—accurately machined and heat treated. The screw and bolts are Nickle alloy. It is built for real service.

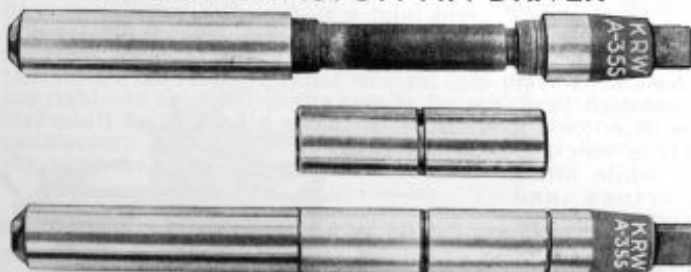
GREASE RETAINER DRIVERS A-AA



The KRW Grease Retainer Drivers (Nos. A333 and AA334) are very important tools. Grease retainers must be installed with care, for the slightest damage will render them useless. KRW Drivers are made from drop forgings, accurately machined to exactly conform to the shape of the grease retainer, so that uniform pressure is applied to all points while being pressed

into position—eliminating any possibility of damage. This operation should be done in an Arbor press whenever possible. The A333 is similar except smaller than the one shown in cut.

IMPROVED PISTON PIN DRIVER



The KRW Improved Piston Pin Driver No. A355 is accurately made and will give satisfactory results.

BEARING DRIVERS FOR ARBOR PRESS

Group No. 5

PRICE \$5.00

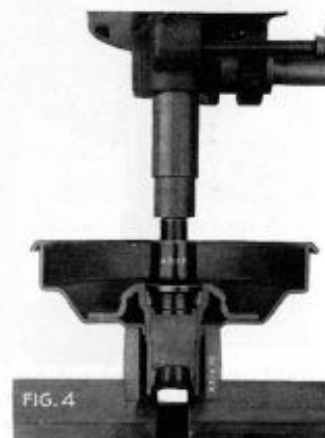
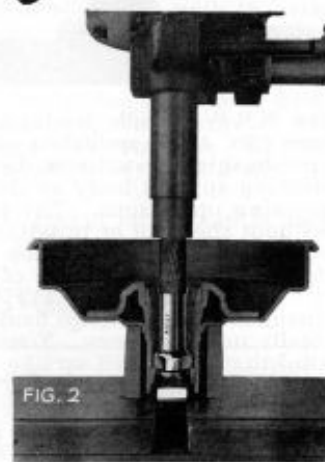


Fig. 1 shows tool No. A303B and A304B pushing out large Timken bearing race.

Fig. 2 shows tool No. A304B pushing out small Timken race in latest style pressed steel hub. Please note tool is now made with 4 flat sides to pass projections in hub which hold race in place.

Fig. 3 shows tool No. A305B pressing small bearing race into place.

Fig. 4 shows tool No. A305B pressing large Timken bearing into place.

Fig. 5 shows tool No. A305B pressing Timken roller bearing in place on differential housing.

This special set of Arbor press drivers is preferable and will save time over hand operated tools. If the dealer is equipped with an Arbor press. All three drivers are made from alloy steel, accurately machined and heat treated for long service.

Shipping Weight 12 Pounds

SEE PAGES 36-37 BEFORE ORDERING.

K R W DRIVE PINION ROLLER BEARING PULLER AND REPLACER



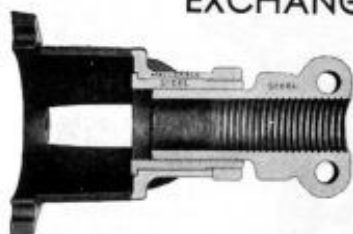
★ No. A329
PRICE \$5.00

Shipping Weight 10 Lbs.

The K R W Drive Pinion Roller Bearing Puller and Replacer is a very necessary tool for removing or replacing the roller bearing assembly in the Banjo of the rear axle. This operation usually calls for plenty of force. This tool, made like a Jack, puts it in

place easily and without damage. About one case in a hundred may be so tight that a little heat, applied with a blowtorch, around the neck of the housing may be necessary to expand and break it loose. This puller has been greatly improved. The main casting is malleable iron with a Hardened steel, threaded sleeve inserted in it. The Clamp is a Drop forging, accurately machined to size. The inside is grooved to give greater gripping power (Now holds against 15 Tons pressure) on the drive shaft. It is then heat treated and hardened to stand wear and abuse. We know it will give a good account of itself and you will find it a real necessity.

EXCHANGE POLICY



We will repair with new style parts or replace with a new puller — GRATIS — any K R W Puller of this type which has failed to perform satisfactorily. Customer to return cage casting Parcel Post Prepaid to Our Factory—K. R. Wilson,

Arcade, N. Y., and to absorb transportation charges on the new one.

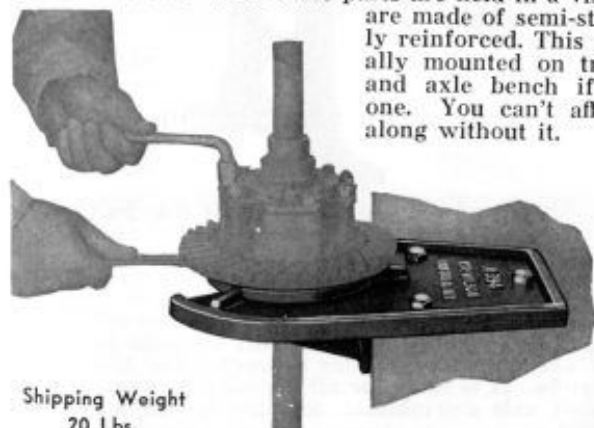
K R W DIFFERENTIAL HOUSING HOLDER

No. A394

PRICE \$2.50



The K R W Differential Housing Holder handles both "A" and "AA" Differentials. It enables the mechanic to work most conveniently—prevents damage to the finished parts as is often the case when these parts are held in a vise. Castings are made of semi-steel, strongly reinforced. This tool is usually mounted on transmission and axle bench if you have one. You can't afford to get along without it.



Shipping Weight
20 Lbs.

K R W OIL PAN FOR WHEEL OPERATION

No. 142

PRICE \$2.00

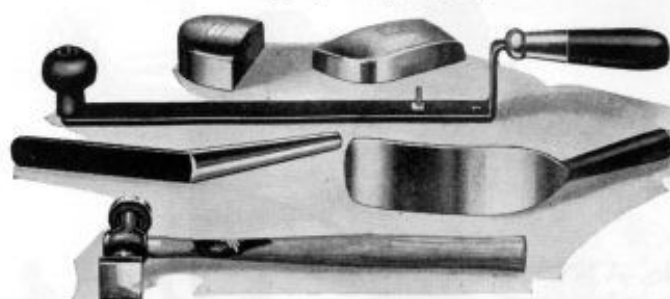
Shipping Weight
20 Lbs.



K R W Pans for Wheel operations keep the oil, grease and dirt off the floor and encourage cleanliness. Made of 24 Gauge Steel. Size 23 x 33 inches, with a 3/8" Wire bead edge. Hot galvanized after being made. A half dozen or more of these pans will pay big dividends in keeping your shop clean. Shipped Crated.

No. 101—BODY BUMPING KIT—\$6.00

Shipping Weight 12 Lbs.



The K R W Body Bumping Kit consists of 2 special drop-forged steel hardened and ground Dollie Blocks, 2 special forged Spoons, a special Bumping Hammer and a File Holder. With this outfit any handy mechanic can straighten fenders and bodies as well as an expert with a very little practice. Larger and more complete equipment can be supplied at proportionate low prices. If interested tell us what you want and we will gladly quote our prices.

K R W ALEMITE-ZERK FITTING DRIVER

A361

PRICE 50c



This K R W Driver will enable mechanics to drive in Zerk fittings quickly and without damage of any kind. In many repair shops this job is being done without special tools. The fittings are often damaged or broken and another must be substituted.



ROTARY HACK SAWS



We can supply rotary hack saws with removable blades, for use with hand brace or Electric Drill to cut holes up to 3 1/2 inches in diameter. They are used for installing heaters and other "Gadgets". If interested write for prices on exact sizes needed.

2-inch FORD SPECIAL No. 113.....\$2.00

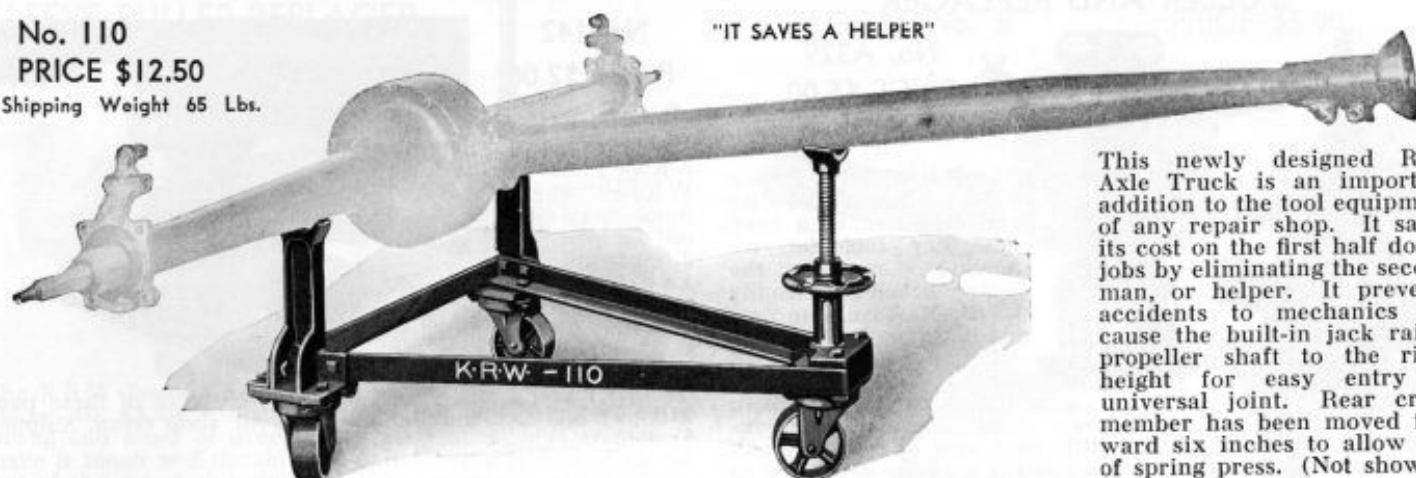
K R W REAR AXLE DOLLIE FOR MODELS A, T, AND TRUCKS

No. 110

PRICE \$12.50

Shipping Weight 65 Lbs.

"IT SAVES A HELPER"



This newly designed Rear Axle Truck is an important addition to the tool equipment of any repair shop. It saves its cost on the first half dozen jobs by eliminating the second man, or helper. It prevents accidents to mechanics because the built-in jack raises propeller shaft to the right height for easy entry to universal joint. Rear cross member has been moved forward six inches to allow use of spring press. (Not shown.)

K R W REAR AXLE DISPLAY STAND



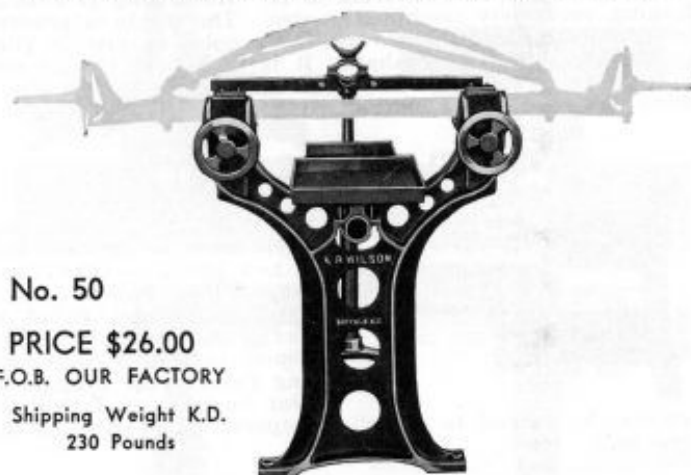
No. A399

PRICE \$10.00

Shipping Weight
75 Pounds

The K R W Rear Axle Display Stand has been especially designed for displaying rear axle assemblies on show room floors. The frame is made of pressed steel and pipe, Arc welded joints, which are ground and filed smooth, after which several coats of filler and paint are applied and worked up to a high finish. Three-inch rubber tired castors are used. It is well wrapped and crated for shipment. Mr. Ford Dealer, you will create a lot of interest with a rear axle and motor on display in your show room. Prospects like to "see and feel" them.

K R W FRONT AND REAR AXLE STAND



No. 50

PRICE \$26.00

F.O.B. OUR FACTORY

Shipping Weight K.D.
230 Pounds

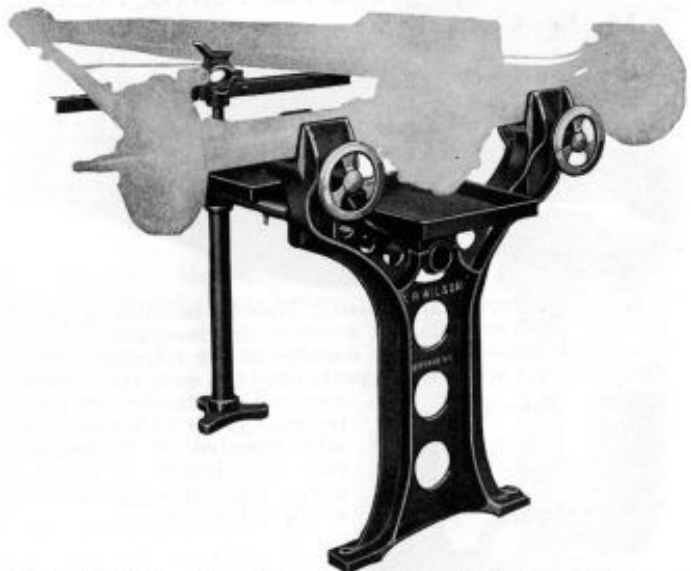
K R W RADIUS ROD STAND

No. 367 PRICE \$8.00

Shipping Wt. 80 Pounds



The K R W Radius Rod Storage Stand is just what you need, takes up very little room, costs little and keeps these unruly parts in order. Base and brackets made of liberal sized semi-steel castings with two-inch pipe standard.



The K R W Combined Front and Rear Axle Stand has many valuable features. The main frame is a one-piece semi-steel casting. Movable jaws are of malleable iron. Hand wheel screws are protected against damage to threads, also against danger to operator. Galvanized Steel tool and grease pans are provided so that the floor can be kept clean. The front end has an adjustable support for both bevel and worm gear axles. Also provides a bracket for holding up the radius rods. It is ideal for all testing and repair operations on front axle assemblies. Suitable for all makes and types of axles.

K R W ENGINE DISPLAY STAND

For Model "A" Ford Motors



No. A366

PRICE \$16.00

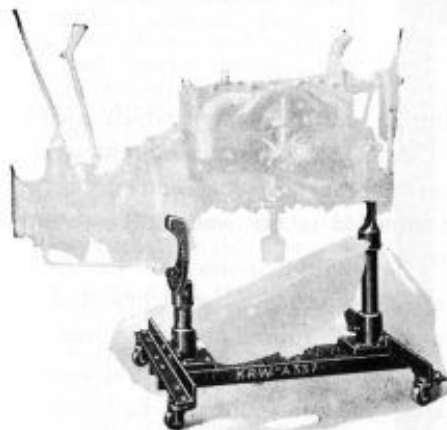
Shipping Wt. 110 Lbs.

The K R W Engine Display Stand has been especially designed for displaying Model "A" Engines on show room floors. It is well made and presents an attractive appearance. Top and bottom castings are extra heavy and made of Semi-steel, accurately machined and screwed to a four-inch pipe standard (the feet have been made longer than shown in cut). After being assembled, the whole job is filled, painted and hand rubbed to a smooth finish and then well crated and protected to reach you in perfect condition. That spare motor you carry in stock can just as well do double duty by attracting customers on your show room floor, rather than just taking up room in your stock room.

K R W MODEL "A" MOTOR DOLLIE, \$12.50

No. A337

This Dollie has been perfected to serve as a convenient means of transporting Model "A" motors around shop and show room and is also designed so that 75% of the assembly or disassembly operations can be performed on it, which for various reasons might otherwise tie up a Motor Stand. These low prices will enable you to buy several of them for storage and display of your motors. Order today.

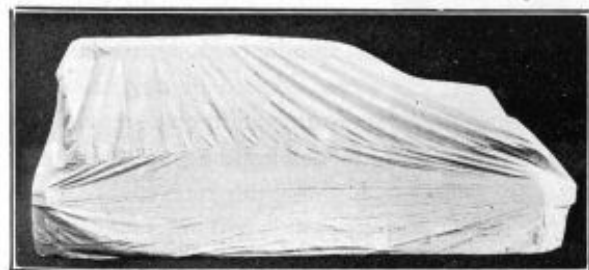


Shipping Wt. 90 Lbs.

MUSLIN CAR COVERS

No. A409

PRICE \$7.50



K R W Muslin Car Covers are made from strong unbleached Muslin. Can be easily laundered. They are especially designed for winter storage. In many places dealers use them for keeping the dust off their new cars all through the year. Muslin Covers are far superior to paper as they do not scratch paint or make rubbing or refinishing necessary. They are very well made and will give years of service.

Shipping Weight 10 Pounds

K R W "A" REAR END LIFTER

No. A357

PRICE \$11.00

Shipping Wt. 54 Lbs.

The K R W Rear End Lifter fits all models except new 1931 Four-Passenger Coupe and Trucks. It is a very substantially built job and easily attached, as shown in lower picture. Its design is such that there is no chance to mar the body of the car while it is being attached or in use. It will, therefore, pay for itself through time saved and damage done by using other make-shift devices.



K R W FRONT END LIFTER

No. A365

PRICE \$7.50

Shipping Wt. 14 Lbs.

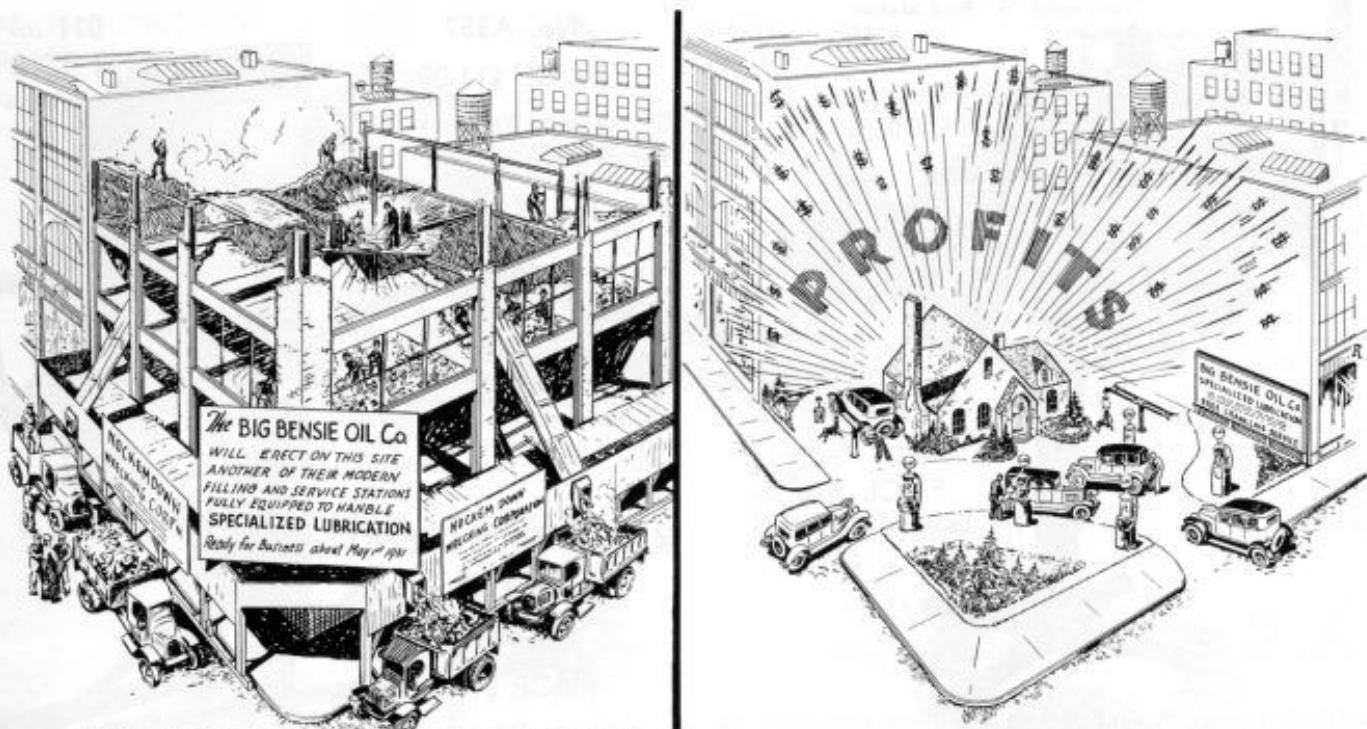


The K R W Front End Lifter is easily and quickly attached and so designed as to prevent any possible damage to the car. The hangers are made of heavy refined steel castings and capable of supporting three times as great a load as will be required. The chain is extra heavy electric welded. The ring and links are hand forged and welded to insure absolute safety. No other type of lifter compares with it for speed and general usefulness.

Order one of each today and cut down the usual time required for these operations by at least half.



THERE *MUST* BE A REASON!



THE BIG OIL COMPANIES ARE CONTINUALLY BUYING UP VALUABLE PROPERTY, IN BOTH BUSINESS AND RESIDENTIAL SECTIONS, PAYING FABULOUS PRICES, _____ TO ERECT MODERN FILLING AND SERVICE STATIONS — *WHY?*

OIL COMPANIES VS. AUTHORIZED SERVICE STATIONS

A Little Food For Thought

EVERY car sold must be serviced. The volume of this after service is tremendous. The big Oil Companies have not been slow in realizing this and acting accordingly. They are alert to the big profits to be had. Is it any wonder then that they buy up some of the choicest pieces of property in cities and towns all over the country and spend millions of dollars in setting up the luxurious filling and service stations that greet one's eyes wherever one may go.

Every Ford Dealer should go after his share of the business which rightfully belongs in his service station. Remember the big Mail Order Houses took away volume business from many smaller concerns. Next the Drug Stores—if they can still be so called—began stocking articles and lines entirely foreign to drugs and medicines until today one may go in any drug store and purchase practically everything. In fact the modern drug store looks more like a Mail Order House than a Mail Order House itself.

Just as the Mail Order Houses and Drug Stores have cut in on the business of other concerns and driven more and more of the smaller houses to the wall, so the big Oil Com-

panies today are cashing in on the profits which modern Lubrication brings in. Many Service Stations, unless they fortify themselves against this ever growing competition, will in turn find themselves crowded to the wall and eventually wiped out of the picture.

Obsolete equipment should be replaced with new and up-to-date pieces. Do away with the dirty and dangerous pits and other inadequate and space wasting devices and install a battery of Hydraulic Lifts. Not only can cars be lubricated better and quicker on a Lift but cars can be thoroughly washed. That means under the chassis and inside the wheels, places seldom if ever reached in wash jobs handled in the old fashioned way.* Also mechanics are enabled at the same time to carefully inspect the car while it is on the Lift, such as inspection of wheel bearings, spindle bolts, hub bolts, steering gear, etc.† and the car owner advised of any needed repairs, which means, aside from the additional repair business such service would bring in, the building up of customer confidence without which no business can succeed.

*See page 64. †See page 52.

in the **Proper Lubrication** of his car



PRICE \$4.00

Shipping Weight 12 Pounds.

K R W FRAME FOR FORD LUBRICATION CHART

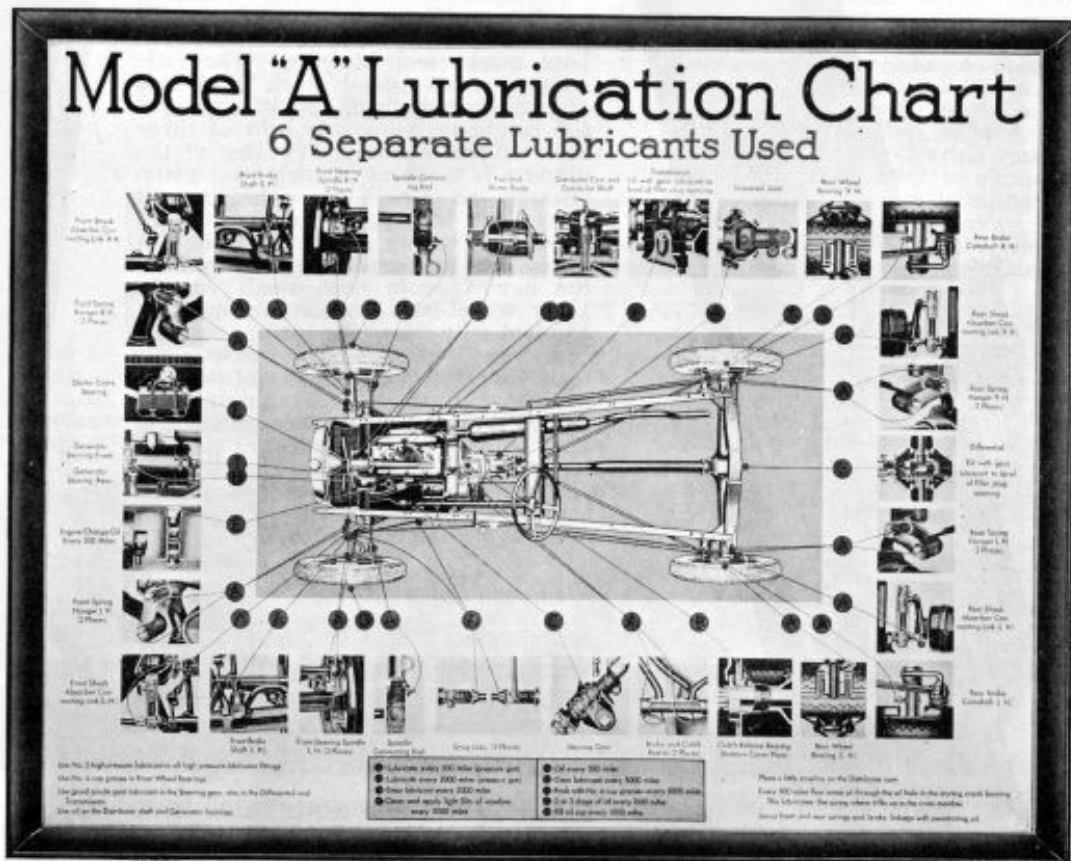
F. O. B. Arcade, N. Y. Shipped K. D.

PRICE \$2.00

THE Ford Lubrication Chart is a very valuable piece of work and should not only be protected against damage, but finished to attract your customers' attention. It should be mounted on a piece of non-curling wallboard or pre-stwood of the same size. Then the surface sprayed (not brushed) with two coats of clear varnish to make it washable. A one and one-half-inch brown mahogany frame completes the job and gives it an attractive appearance. This chart together with a KRW lubrication sign should be placed in a conspicuous place where your customers cannot fail to see and be impressed by them. Your total investment, less than ten dollars, will soon come back to you, many fold, in the extra volume of business. The customers confidence which these signs are bound to create is well worth the investment.

If you cannot secure a suitable frame locally at the right price we will be glad to supply it, knocked down and ready to be nailed together for two dollars, F.O.B. our factory.

MR. FORD DEALER: On this page is pictured the ammunition which will help you recover your share of the highly profitable lubrication business. Very few Ford owners know that six different lubricants are required, and are therefore satisfied with the average independent service station who uses but two or three. It's up to you, Mr. Ford Dealer, to acquaint your customers with the fact that six different lubricants are necessary and actually used in your service station. The Ford Motor Company have spent thousands of dollars preparing the lubrication chart pictured below and which has been furnished gratis to every Ford dealer. It is printed in several colors, showing in great detail the various places to be lubricated and the kind of lubricant required. It cannot help but arouse your customers' interest and should be displayed in a prominent place alongside the KRW lubrication sign which shows actual samples of the various lubricants. The KRW sign is made 30x40x3/16 inches, of Prestwood. Attractively lettered in white, gold and Ford blue on a natural brown mahogany background. Varnished all over, it is washable and easy to clean. Six bottles and a set of polished cast aluminum clips with screws, etc., are included. This sign is worth many times its cost and is not to be compared with any other competitive sign of this sort.



K R W-ROTARY HYDRAULIC AUTOMOBILE LIFT

No. 123

THE K R W Rotary Hydraulic Automobile lift is made for us by the originators and patentees of rotating, hydraulic lifts (the largest lift manufacturers in the world) and to whom many other makers are now paying a royalty. No other make of lift compares with these new models for efficiency, high grade construction, strength and rigidity. The K R W Rotary Lift is safe — and was the first lift to be listed by the Underwriters laboratories. It is built strictly in accordance with their specifications.

Shipping Weight:

8½ inch 1240 Pounds
9½ inch 1300 Pounds
10½ inch 1360 Pounds

THREE SIZES

K R W Special
8½ Inch \$180.00
F.O.B. Memphis

9½ Inch \$250.00

10½ Inch \$295.00

Delivered to any railroad
Station in U.S.A.

SUPER-STRUCTURE IS
IDENTICAL ON ALL
THREE SIZES

MANY NEW IMPROVEMENTS

AS usual, K R W is first with new equipment to meet ever changing conditions. Extra heavy 16 foot rails are now furnished to handle long wheel-base trucks and Lincolns. The rails are made from special 5 inch "H" beams of high carbon steel, and will support the maximum allowable load of three tons without bending. The top of the plunger is made of ¾ inch steel plate, strongly reinforced by webbing. All joints are welded. This new design allows 1¼ inches greater clearance—a necessary improvement for handling the new Lincoln with small wheels. Long wheel-base trucks can now be handled with ease. The load is correctly balanced when the front axle is directly over the front tie bar of the lift, as shown on page 50. All other models should be centered for correct balance. The new type axle supports are convenient and easy to handle. They are especially adapted for Model A and Timken truck axles. There are many other refinements too numerous to mention.

THE BEST LIFT MADE

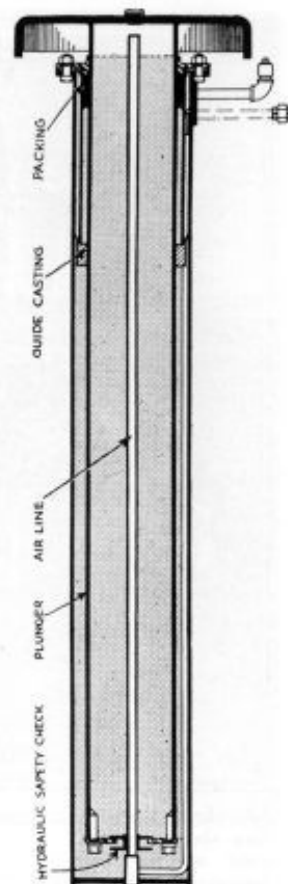
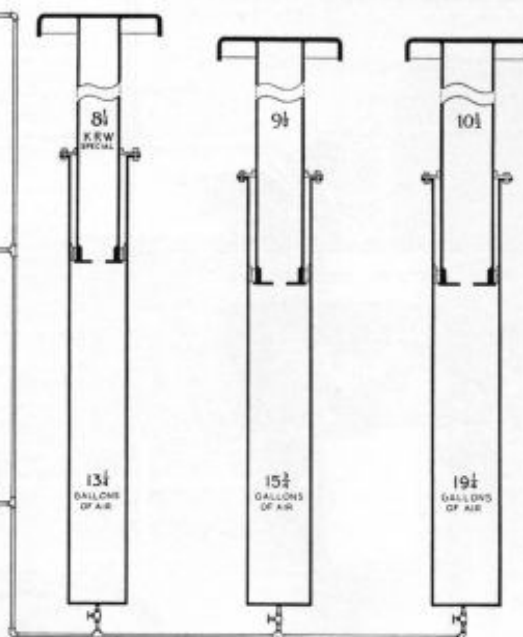
THE STRONGEST SUPER-STRUCTURE USED
BY ANY LIFT MANUFACTURER

AVERAGE 25 to 40 Cubic Ft. Single Stage AIR COMPRESSOR				
50 Gallon Tank—150 lb. Pressure.				
Plus 8½" Lift	40½"	"	"	104"
Plus 9½"	40½"	"	"	88"
Plus 10½"	40½"	"	"	71"

AVERAGE 5 to 10 Cubic Ft. Single Stage AIR COMPRESSOR				
80 Gallon Tank—150 lb. Pressure				
Plus 8½" Lift	75½"	"	"	132"
Plus 9½"	75½"	"	"	118"
Plus 10½"	75½"	"	"	103"

AVERAGE 16 to 24 Cubic Ft. Single Stage AIR COMPRESSOR (200 "High pressure")				
80 Gallon Tank—150 lb. Pressure 78 Gal. Tank—180 lb. Pressure				
Plus 8½" Lift	90½"	"	"	128"
Plus 9½"	90½"	"	"	120"
Plus 10½"	90½"	"	"	110"

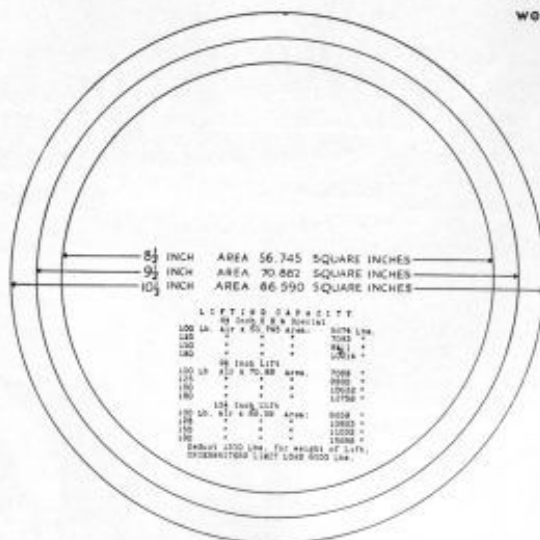
Figures shown on these diagrams and accompanying data are only approximate, and to be used for the purpose of comparison only.



RIGHT—A cross section of the KRW-ROTARY lift cylinder. Showing the extra long guide bearing also the safety check valve in the bottom of the plunger. Absolutely nothing to wear or get out of order in this lift.

THE above illustration clearly explains the lifting capacity of the three popular sized lifts, when connected to various sizes of air compressors. Some lift installations have been unsatisfactory on maximum loads because the air compressor was entirely too small and overloaded. Any Automatic Air Compressor operating more than three-quarters of the time is overworked and will eventually break down. The diagrams and data shown on this page have been carefully compiled to help dealers get satisfactory results.

The figures are based on the compressors being as good as new, in first class condition, and used for operating the lifts only. The Circle picture shows the area of the pistons used on each size lift. This figure multiplied by the number of pounds air pressure available when the lift is UP, shows the actual lifting capacity—less the weight of the lift itself (1300 pounds) and a small allowance for friction of packing, and unbalanced loads. EXAMPLE: The Sixty Gallon Tank pumped to its full capacity of 150 pounds pressure becomes equivalent to a 73½ gallon reservoir with 122 pounds pressure, (as indicated by the dotted line in the illustration above) after the 8½-inch lift has been raised. Since Air Compressors in most garages are used to operate various other pieces of equipment, in addition to the lifts, it is most important that a compressor of sufficient capacity to do this work be used. (See page 97).



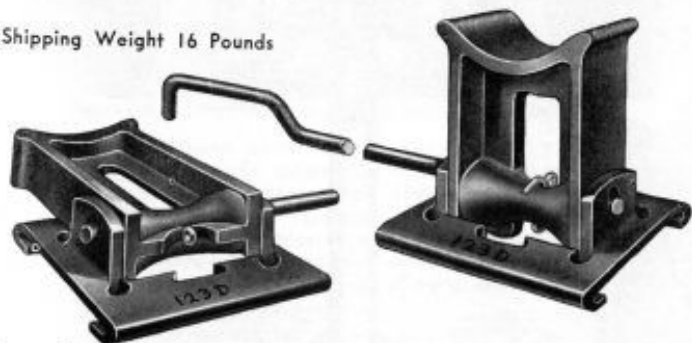
KRW ROTARY LIFT IS SAFE

The load is always supported on a column of oil. Upward and downward movements are pre-determined and positively controlled by the Patented Hydraulic Safety Check located in the bottom of the plunger where it cannot be tampered with. With proper air pressure 40 seconds are required to raise the lift to full height, and 50 to 60 seconds for lowering it—regardless of load. The new 20-inch Guide Bearing insures smooth operation and a minimum air consumption when handling unevenly balanced loads. Rotary Lift was first to be listed by the Underwriters Laboratories as standard.

SECOND FLOOR INSTALLATIONS

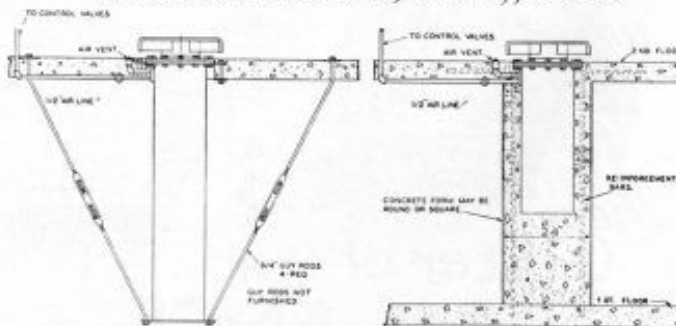
If you desire lift for second floor installation, be sure to mention it on your order so that special plate can be welded on bottom of cylinder at the factory. Guy rods are not furnished.

Shipping Weight 16 Pounds



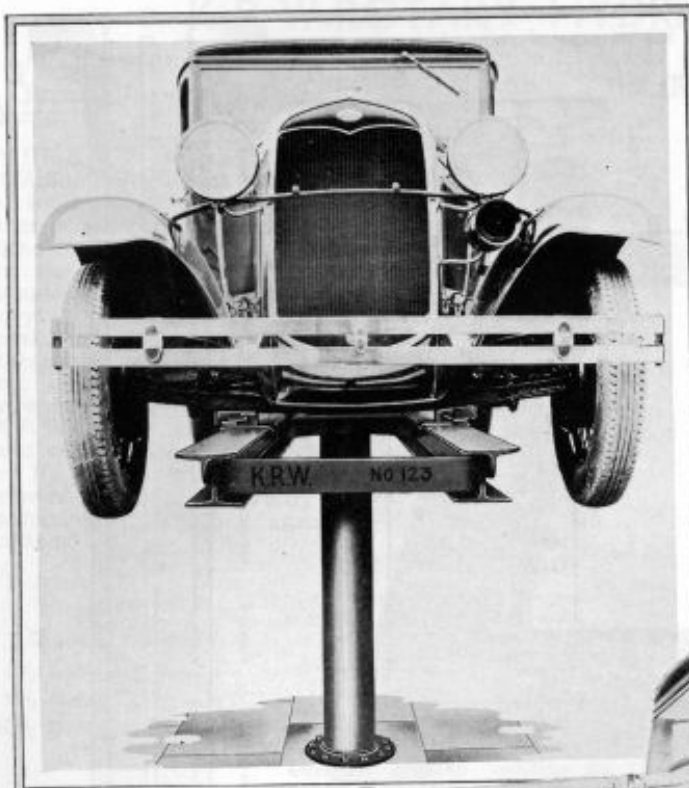
These improved axle supports as now furnished can be supplied for all our older type lifts at \$4.50 per pair F. O. B. Memphis.

Special Installations of Rotary Lift for Upper Floors

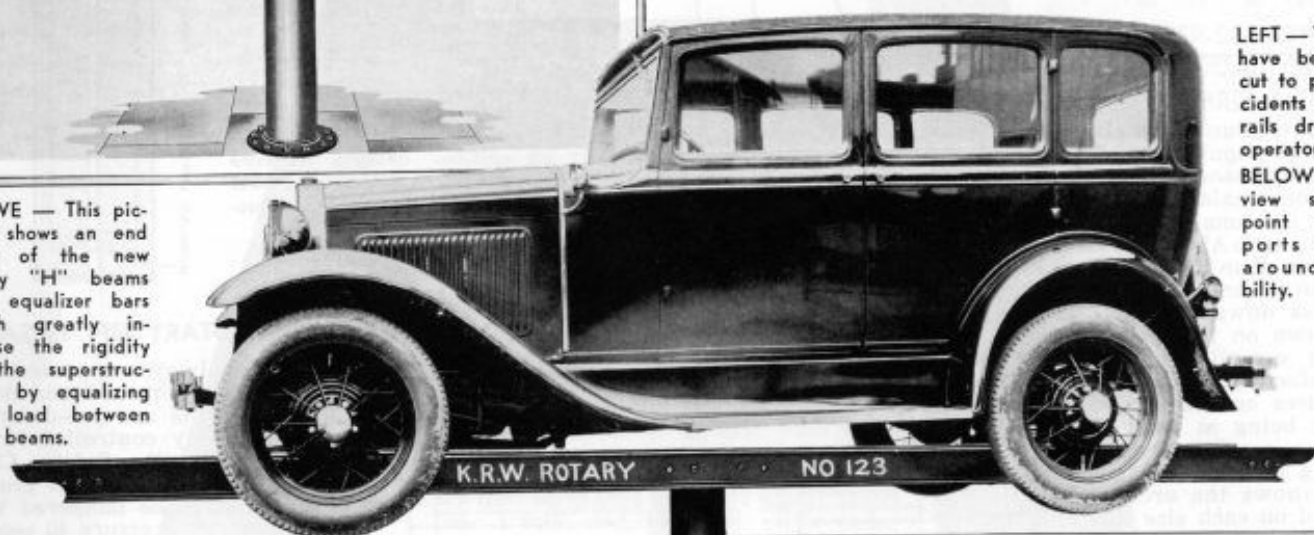


Suspended Type Installation

Supported Type Installation



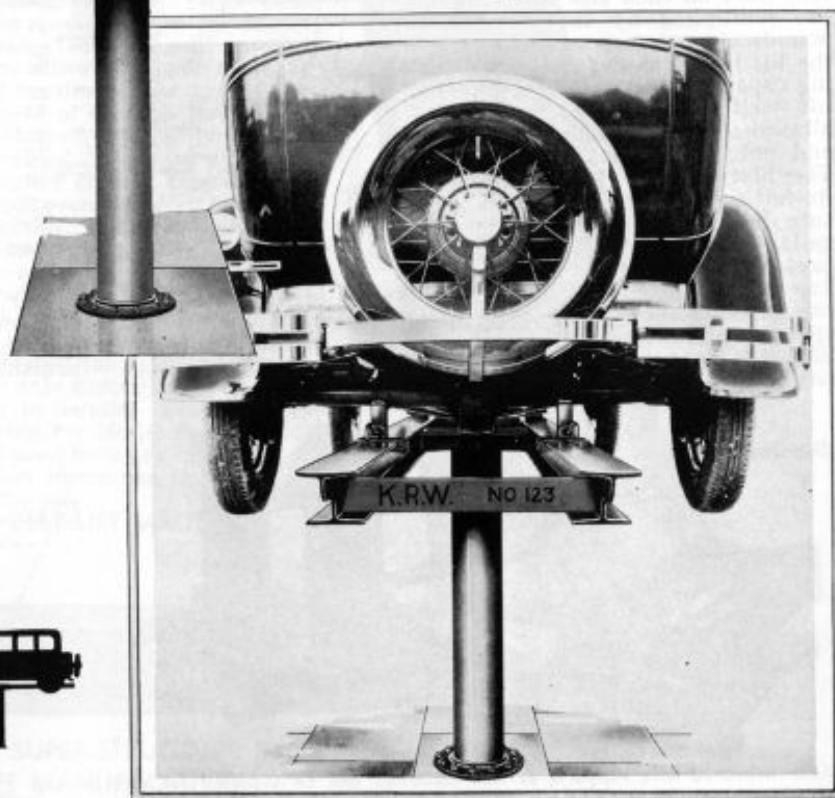
ABOVE — This picture shows an end view of the new heavy "H" beams and equalizer bars which greatly increase the rigidity of the superstructure, by equalizing the load between the beams.



LEFT — The beams have been undercut to prevent accidents by ends of rails dropping on operator's feet.

BELOW — A good view showing 4 point axle supports and all around accessibility.

HYDRAULIC Lifts can be operated more economically when the load is evenly balanced. Side thrusts and friction are reduced to a minimum. Ford and Lincoln cars should be located in the center of the lift, as shown above. Long wheel-base trucks with the front axle directly over the equalizer bar on the end of the lift as shown on page 50. **FOR EXAMPLE:** A 5000 lb. load 18 inches off center will require a constant pressure of 185 pounds to lift it on the 8 1/2 inch lift and proportionately on the other sizes. The new lift with the 16 foot rails, and handy axle supports enables you to properly locate any model so that it can be raised with a minimum amount of air. The Underwriters Laboratories limit loads to 6000 lbs. Do not exceed it. Otherwise if you have an accident, your liability insurance will not protect you. Avoid loaded trucks of unknown weights.



THE K R W-Rotary "Free Wheel" Type Lift has so many advantages over other makes it would require several pages to enumerate them in detail.

It combines everything needed in a lift to service Ford cars, trucks, long wheel base trucks, and Lincolns. There are three sizes. The superstructure is identically the same on all three. The only difference being in the amount of air pressure required to operate them with maximum loads, as explained on the preceding page.

All K R W-Rotary Lifts are factory tested with 100% overload and are "listed as Standard" by the Underwriters Laboratories.

The "Free Wheel" Type Lift is by far the most satisfactory for lubricating and washing cars; testing and adjusting brakes; changing wheels or tires; and for general inspection, as the wheels are perfectly free and there is no weight on the bearings. (See Page 52).

The Lift can be raised and stopped at any desired height, as well as rotated so as to face the light, enabling the mechanic to work to the best advantage. The overall width is 28 inches with 18 inches between beams, which allows ample room for mechanics to conveniently work while lubricating or servicing cars.

It is a known fact that the majority of filling stations lubricate only about 20 out of 33 fittings on a Ford car. Since the life of an automobile depends largely on the thoroughness of lubrication it is obvious that the parts neglected will quickly wear out. The car owner, not knowing of this carelessness, naturally assumes these parts were defective.

Let your customers see that this carelessness does not obtain in your shop. When equipped with K R W-Rotary Lifts your shop can turn out the class of work you would want done on your own car—and at a saving of fifty per cent on labor costs—to say nothing of the Customer's confidence and satisfaction that will result.



RIGHT—Meldrum Motor Corp. of Buffalo have always been "service minded" and successful Ford dealers. They are now using 4 lifts to care for their ever increasing business of honest lubrication. (24 hour service.)



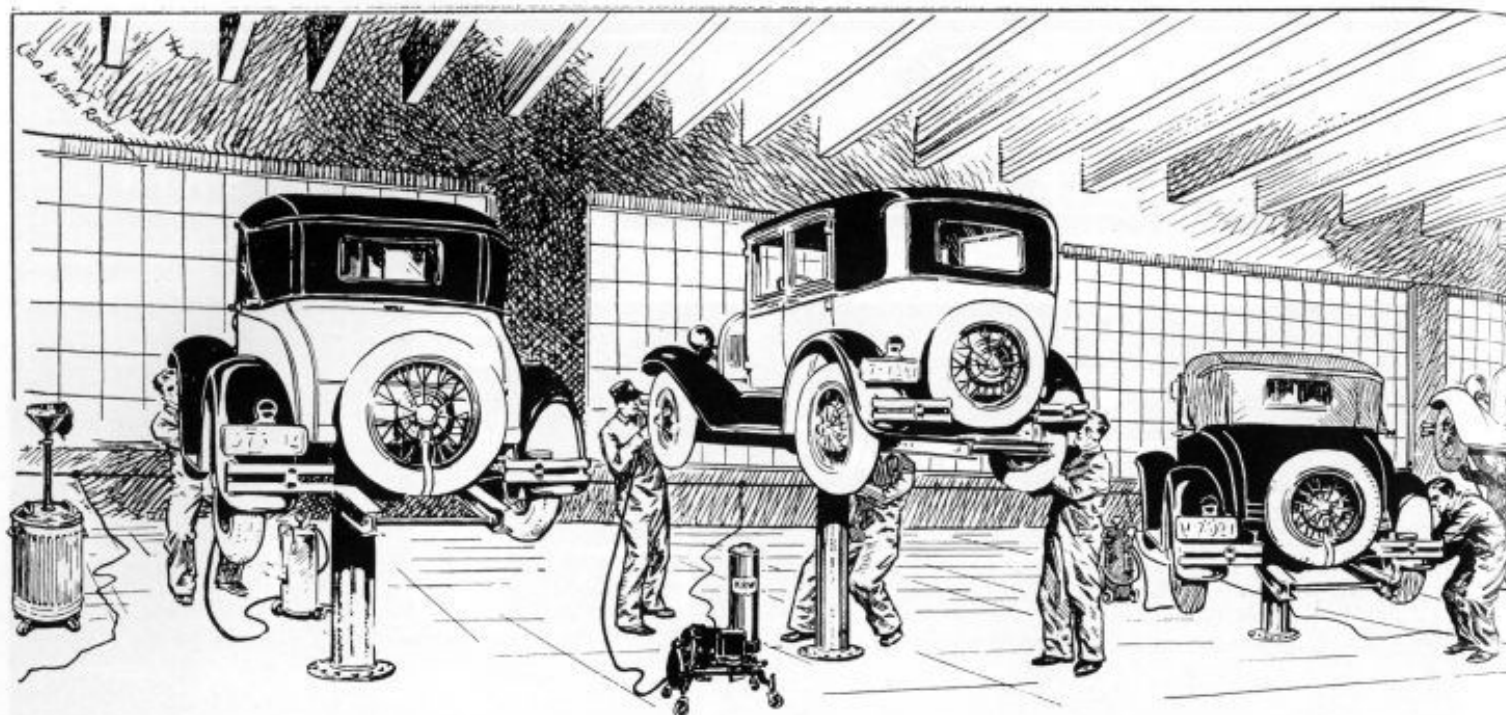
ABOVE—Jack Root of Los Angeles has gone after his share of this highly profitable Lubrication and Car Washing business, by building an attractive looking station, out where it can be seen by thousands of motorists. It is convenient and accessible for quick service, and is always kept spotlessly clean and inviting. We have equipped hundreds of such stations all over the country, with batteries of Hydraulic lifts for Lubrication, Inspection and Car Washing.



ABOVE—The Kenmore Motor Co. of Kenmore, N. Y. have built up a wonderful business by their outstanding, dependable day and night service. Their shop, their men and customers cars are kept clean. Three lifts help accomplish these results. Most every time a lift goes up, the cash register rings in another dollar. They have paid for themselves many times over directly and indirectly in the saving of time and labor.

RIGHT—C. A. Winetroun, Inc., Grants Pass, Ore., is another successful Ford dealer who uses lifts for Washing, Lubrication and Inspection. There is a reason!



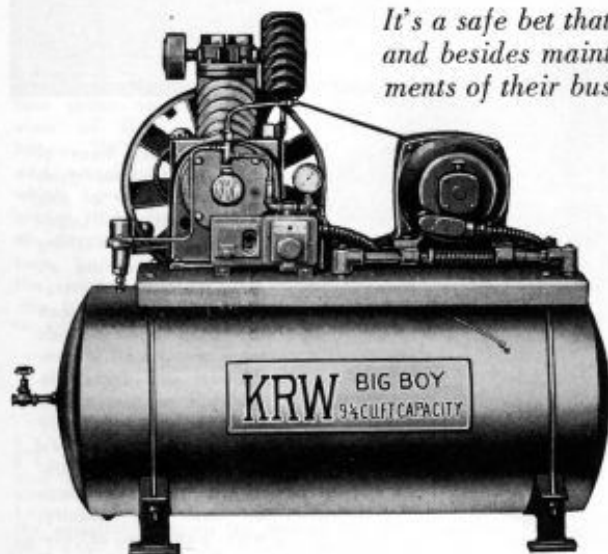


It's a safe bet that three months from now thousands of Ford Dealers will be operating and besides maintaining that Customer Contact for New Car Sales will be making movements of their business.—K. R. Wilson.

GET THIS K R W EQUIPMENT

Statistics show that 49% of the net profits made by dealers come from 10% of the total volume of their business. Get your share of it. SUMMARY SHOWS: New and Used Car Sales—90% of Volume, Service and Repairs —10% of Volume.

EXAMPLE: \$100,000.00 Volume—\$10,000.00 Profit. 90% of \$10,000.00 or \$9,000.00 Volume Produced \$4,900.00 Profits. It will be eight and three-fifths times as much profit per dollar.



HERE'S WHAT YOU GET

1 HYDRAULIC LIFT

With sufficient capacity for Fords, Lincolns, and unloaded trucks. Built especially for K R W by THE ROTARY LIFT COMPANY, Originators, Patentees and largest manufacturers of oil supported Hydraulic lifts. Recent improvements include complete new superstructure and heavier rails which are also two feet longer to accommodate the new long wheelbase Lincolns and Ford Trucks. New type rear axle support is especially adapted for Timken truck axles as well as other types. K R W Price \$180.00 F.O.B. Memphis.

1 BIG BOY COMPRESSOR

With capacity of 9 1/2 cubic feet air per minute. 2 H.P. ball bearing, three phase motor. Automatic Overload and undervoltage controller. New Positive mechanical unloader. 60 gallon tank, hose, etc. Capacity for one or two lifts and other air operated appliances. K R W Price \$147.50 at factory, Wilmington, Ohio. (See pages 47-97-98-99).

1 K R W ELECTRIC LUBRICATOR. Develops 4000 pounds pressure at the nozzle. Tank holds 20 pounds lubricant. K R W Price \$95.00.

1 COMBINATION SPRING SPRAYER and ENGINE CLEANER \$8.00.

1 K R W GEAR FLUSHER as shown \$17.50.

1 DRAINOL TANK as shown \$12.00.

IMPORTANT—Be sure to give electrical specifications, cycle, phase, voltage. Prices quoted are for 60 cycle. Other cycles, voltages and D. C. slightly higher.

DRAINOL TANK

No. 150

PRICE \$12.00

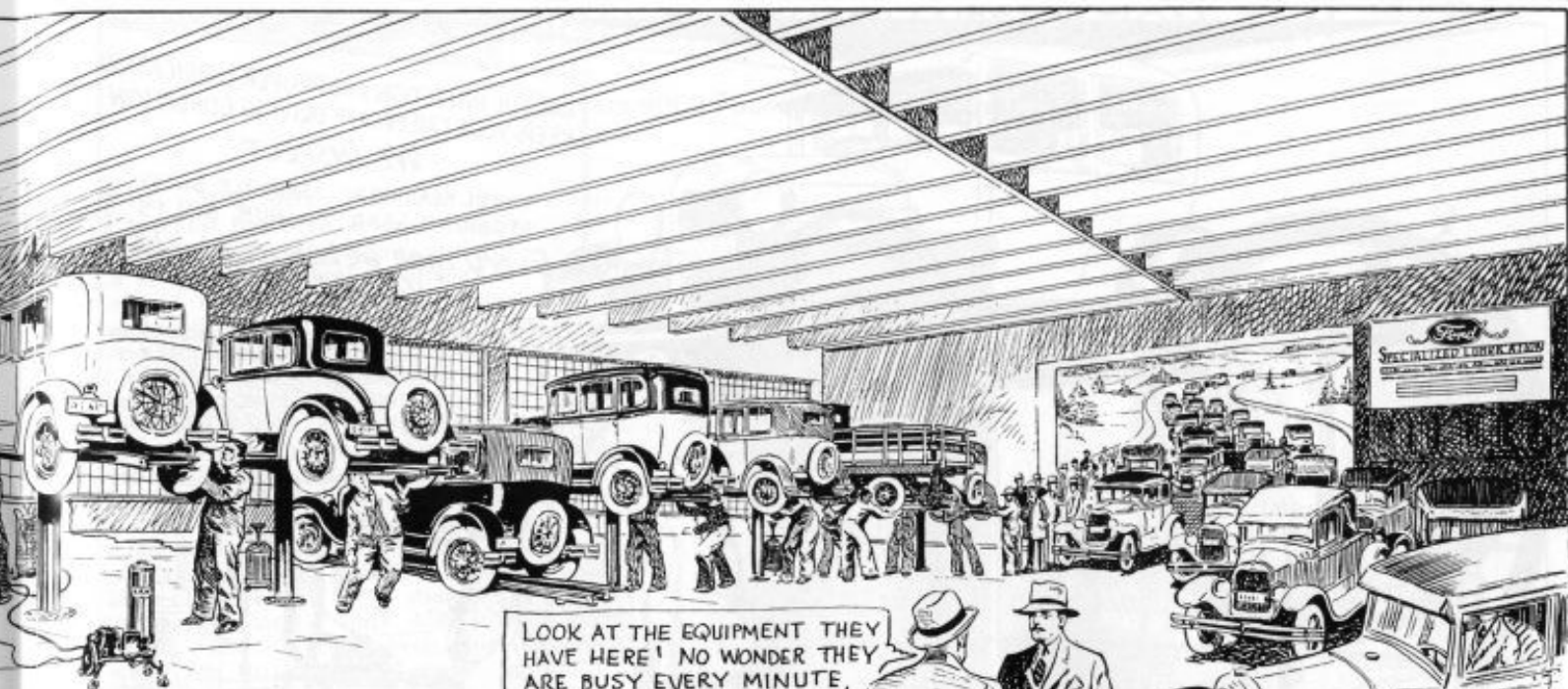
"Something worth while." Saves its cost by preventing the oil from splattering on the floor and attendant's clothes. Helps keep clean. Capacity 13 1/4 gallons. Mounted on 4 heavy 2-inch castors for convenient handling. Funnel is equipped with screen to catch engine drain plug and foreign particles. Height, lowered 45 in., raised 72 in. Tube locks at any height.



\$460.00

IS THE TOTAL COST OF THIS COMPLETE EQUIPMENT SHIPPED DIRECT FROM FACTORIES F.O.B. See Page 6 for Easy Payment Plan





LOOK AT THE EQUIPMENT THEY HAVE HERE! NO WONDER THEY ARE BUSY EVERY MINUTE, AND A LINE OF CARS OUTSIDE WAITING TO GET IN. ONE GETS SATISFACTORY SERVICE HERE!

shops as large as the one shown above
e money than from all other depart-

NOW! DON'T WAIT!

e from the AFTER SERVICE, representing but
ese service profits!

me—51% of Net Profit.

me—49% of Net Profit.

\$90,000.00 Volume Produced \$5,100.00 Profits.
be seen that the AFTER SERVICE produced



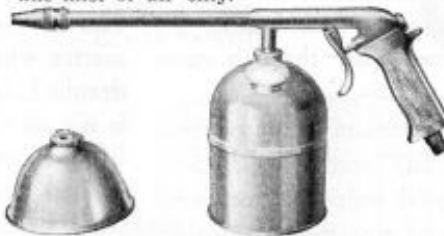
This picture shows a 157
inch wheelbase Truck cor-
rectly balanced on a Lift.
See pages 46 and 48

K R W SPRING SPRAYER AND ENGINE CLEAN- ING GUN

No. 129

PRICE \$8.00

Use a mixture of kerosene and oil for springs and shackles, and kerosene alone for cleaning the engine, transmission and chassis. The K R W Sprayer is extra well made, designed for convenience of the operator. Easily regulated by a slight turn of the nozzle from a cutting stream to a fine mist or air only.



K R W ELECTRIC LUBRICATOR

No. 149B

PRICE \$95.00

Odd Frequency Motors \$10.00 Extra
See page 53 for complete description

K R W GEAR FLUSHER

"Air Operated"

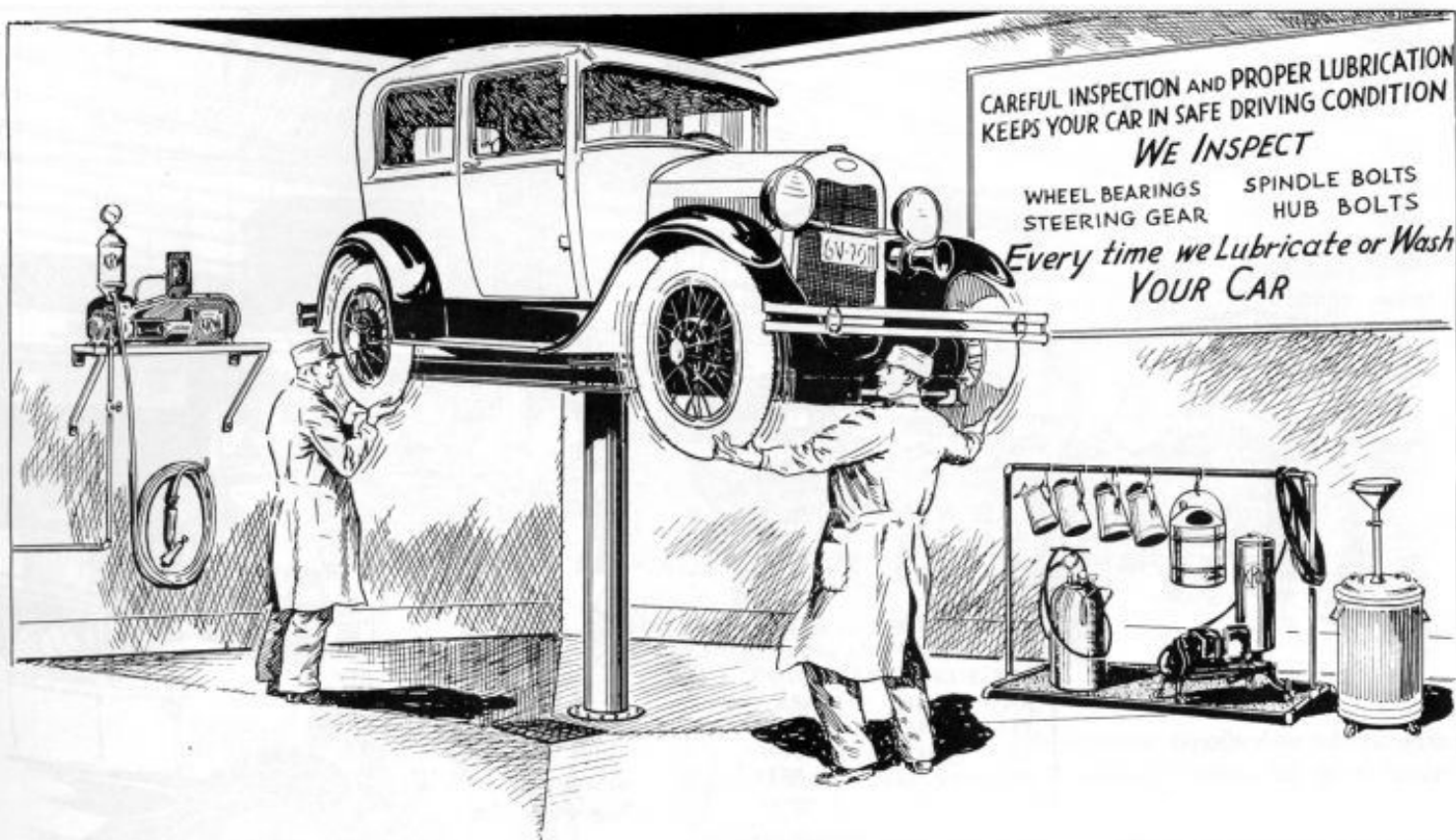
No. 145

PRICE \$17.50

The K R W is faster, easier, cleaner than any other type of gear flusher. Alternately injects or sucks out flushing oil or kerosene until the gears and housings are thoroughly cleaned. No other cleaner can do more regardless of design or price. Its powerful injection stream and suction pull is amazing.



Full details of Lifts and Compressors elsewhere in catalog.



THIS INSPECTION MAY PREVENT A SERIOUS ACCIDENT

The importance of it should be firmly impressed on the mind of every service station mechanic. Every car washed or lubricated should receive this safety inspection.

A HUMAN life is a very precious thing. How carefully and earnestly one tries to guard and safe-keep the health and life of those near and dear. Yet again how thoughtless some humans are for the safety of others. One need only scan the daily papers to be reminded of the number of lives that are snuffed out every twenty-four hours. In many of the cases lives sacrificed, needlessly through carelessness.

The automobile was designed for the pleasure, comfort and convenience of human beings. Like any piece of machinery it must be lubricated and kept in good order and properly inspected from time to time if it is to give the dependable service which the maker has built into it. Each year sees better, finer and faster cars produced. Cars which are designed and built to be safely driven at the greater speeds that have been demanded—speeds which often exceed the fastest express trains. Yet the automobile is often blamed and referred to as an instrument of death and destruction—whereas most of the automobile accidents have been due to causes in which the human element of carelessness played a most important part. It is unjust to blame the car where the owner is at fault, due to carelessness in not keeping the car inspected, properly lubricated, and otherwise in good repair.

EVERY Ford Dealer and Service Station can become a very important factor in reducing the number of automobile accidents by means of Inspection or Preventive Service. They should feel a certain responsibility to the car owners who come to them for service. Thorough inspection of cars at the time they are washed or lubricated is an easy matter where stations are equipped with a number of Hydraulic Lifts of the "Free-Wheel" type. The weight of the car is not on the wheels as is the case where pits, racks, or other lifts are used. The wheels being entirely free allows for a careful inspection of the wheel bearings, spindle bolts, hub bolts, steering gear, etc., etc., without any extra time or cost. This type of lift is also indispensable for thoroughly washing cars and lubricating them better and quicker. The inside of the wheels can be easily cleaned and the whole underside of the chassis is more accessible. Better and cleaner jobs are turned out in half the time and consequently with greater profits. No dealer can afford to be without a number of Hydraulic "Free-Wheel" Lifts. All other ways and means for washing and lubricating cars are obsolete.

Customers will naturally react favorably to this Preventive Service and, aside from any monetary considerations, the dealer will be well repaid in customer confidence—the best asset any business can have.

K R W "HIGH PRESSURE" LUBRICATION GUN

"Delivers 4000 Pound Pressure at the Nozzle"

THE K R W "High Pressure" Electric Lubricator has been designed and built for hard service. The cutaway picture shows its simple mechanical construction. Every part is made of the finest material and machined to very close limits. All parts are interchangeable and quickly replaced if ever necessary. Every working part is thoroughly enclosed and most of them operate in a bath of oil, so that little or no wear can take place. The Cylinder and Piston are both made from Molybdenum steel, heat treated, hardened and ground to fit each other within a quarter-thousandth of an inch. Many competitive machines just drill and ream the hole, then select a piece of drill rod for a piston. K R W Piston operates at only 150 strokes per minute. The motor has been especially designed for this unit and is of unusually heavy construction. Ball bearings are used. Reduction gears are machine cut (not cast). Pressure switch is full automatic and starts the motor instantly the control valve handle, on the hose, is pressed. Only by actual comparison can you appreciate its outstanding superior features and value.



LICENSED UNDER
ALEMITE, ZERK,
OTHER PATENTS

No. 149B

PRICE \$95.00

F.O.B. OUR OWN FACTORY
INCLUDING
ZERK AND ALEMITE
ADAPTERS

Motor regularly furnished
110-220 volt, 60-cycle single
phase repulsion-induction.

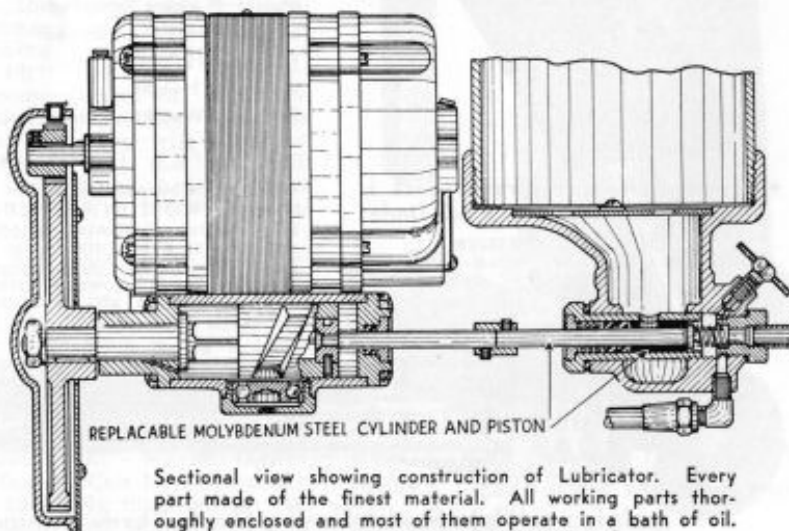
All other cycles, phases and
voltages \$10.00 extra.
Shipping weight 120 Lbs.

GUARANTEED ONE YEAR

except hose, which is guaranteed for six months. If it fails, due to any defect in workmanship or material, during that time, it will be replaced on a pro-rata monthly basis. Hose damaged by kinking or being run over by a truck, etc., will not be replaced gratis but will be supplied at a price slightly above our actual cost.

MULTIPLE INSTALLATION

At K R W prices it is cheaper and more satisfactory to purchase a gun for each outlet rather than one large gun for several outlets.



Sectional view showing construction of Lubricator. Every part made of the finest material. All working parts thoroughly enclosed and most of them operate in a bath of oil. Cylinder and piston made of Molybdenum steel.

K R W THREE-TON DIRECT LIFT HYDRAULIC JACK

No. 151 PRICE \$25.00

With Rubber Tires, \$10.00 Extra.

F. O. B. Factory, Arcade, N. Y.

THE New K R W Built Hydraulic Automobile Jack, Vickers patent No. 1728088, is the simplest and most powerful jack ever built. Nothing to get out of order. It is fast—positive and safe. Will not leak or settle under load. Eight full strokes of the handle raises $7\frac{1}{2}$ inches. Built-in safety valve protects against overloading and abuse. It pumps down as well as up, and is always under perfect control to a few thousandths of an inch, a feature which enables the operator to raise car bodies a "hair's breadth" for installing spring shackles, etc. A 50-lb. pull on the handle will lift 4200 pounds on the jack. There are no foot pedals. Release control is on the handle where it cannot be tripped accidentally. It also allows the load to ease down gradually without crashing. A Special Liquid (not oil) is used, which permits use in zero weather the same as in summer temperatures.

The K R W Hydraulic Jack is extra well made. All castings are semi-steel accurately machined in jigs, as shown in Factory Production Pictures elsewhere in this book. The extension head and Bell Cranks are drop forgings to insure greatest possible strength and eliminate danger of breaking. Telescoping Pistons are special alloy steel turned from solid bar stock, then ground to finish. The main jack cylinder is also ground. The pump cylinder is semi-steel and smoothly bored to a "perfect size" like a gun barrel. The pump piston carries two rings. Due to the fact that all working parts are enclosed and submerged in fluid practically no wear ever takes place. Wheels have roller bearings. This construction assures the longest life and freedom from trouble.



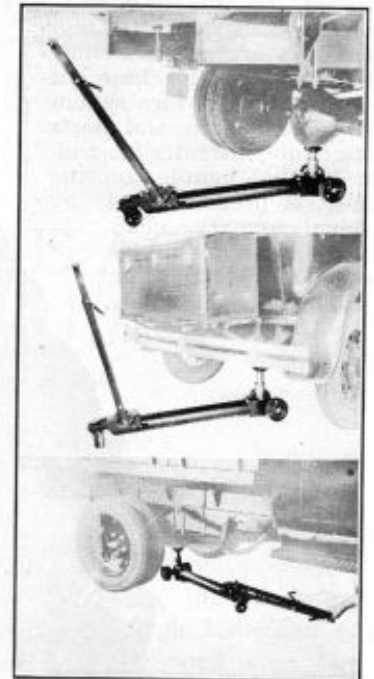
SPECIFICATIONS

Capacity	3 Tons
Length of Jack	56 Inches
Extreme Width	$9\frac{1}{4}$ Inches
Length of Handle	42 Inches
Size of Wheels	$6\frac{1}{2}$ Inches
Plunger Travel	$7\frac{1}{2}$ Inches
Height Plungers Extended	14 Inches
Extension Head Adjustment	3 Inches
Minimum Height	6 Inches
Maximum Height	17 Inches
Shipping Weight Approx.	165 Pounds

OTHER FEATURES

Three point suspension makes for ease in handling and absolute rigidity on uneven floors.
Direct action eliminates complicated leverages and extra unnecessary equipment of no real value.
Small dimensions on account of this design permit easy access in crowded places and particularly between drivers of six wheel trucks.

Every K R W Hydraulic Jack Is Tested on This Machine Under $3\frac{1}{2}$ Tons Pressure.



Handle Can Be Operated in Any Position, Even Near the Floor. The Slightest Movement of the Handle Operates the Pump.



Cross Section Showing Simple, Sturdy Construction. All Working Parts Enclosed.

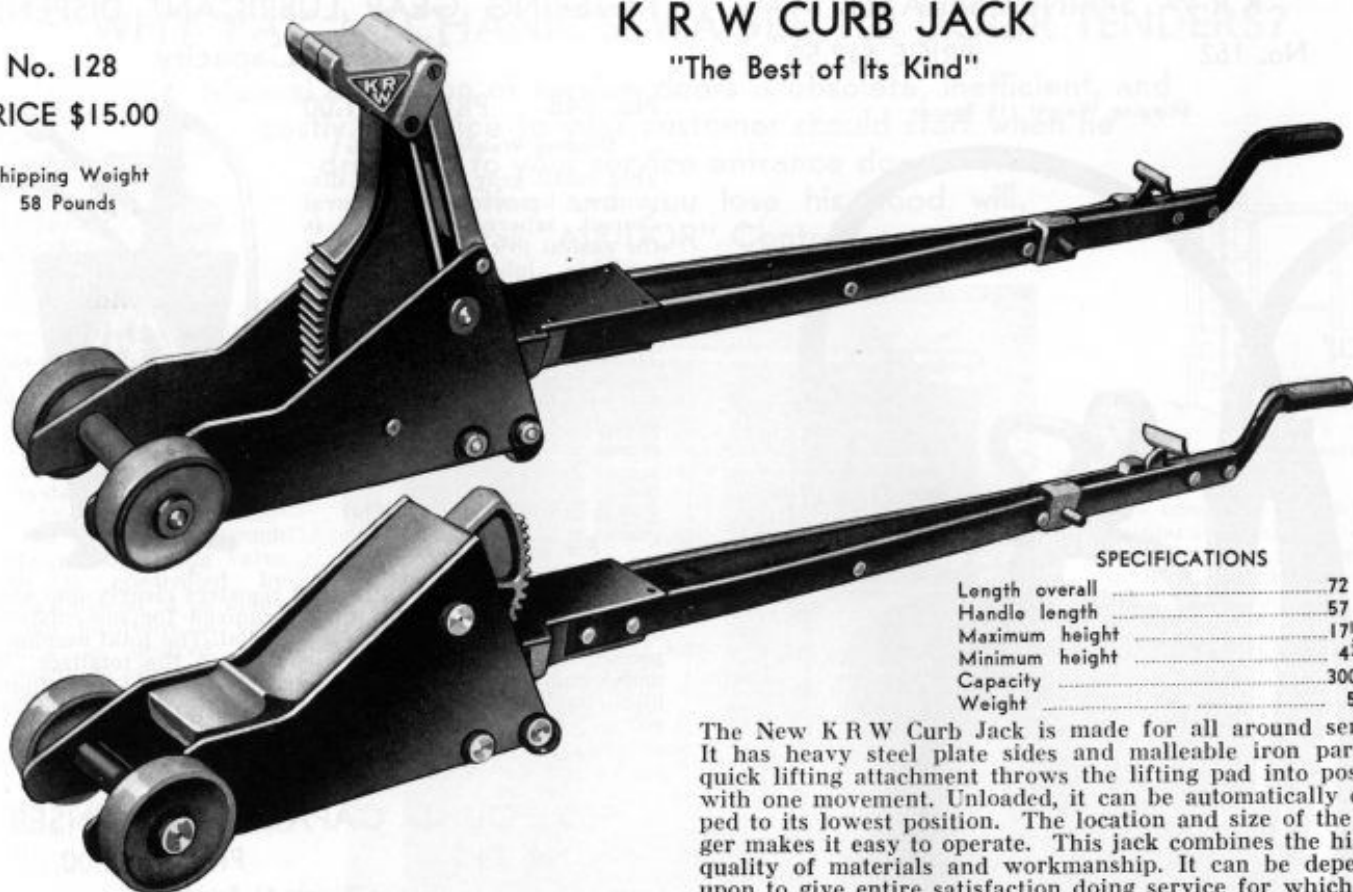
K R W CURB JACK

"The Best of Its Kind"

No. 128

PRICE \$15.00

Shipping Weight
58 Pounds



SPECIFICATIONS

Length overall	72	ins.
Handle length	57	ins.
Maximum height	17 1/4	ins.
Minimum height	4 3/8	ins.
Capacity	3000	lbs.
Weight	58	lbs.

The New K R W Curb Jack is made for all around service. It has heavy steel plate sides and malleable iron parts. A quick lifting attachment throws the lifting pad into position with one movement. Unloaded, it can be automatically dropped to its lowest position. The location and size of the trigger makes it easy to operate. This jack combines the highest quality of materials and workmanship. It can be depended upon to give entire satisfaction doing service for which it is intended.

K R W BRAKE DRUM RACKS

No. A392-Car

PRICE \$9.00

No. AA392-Truck

PRICE \$9.50

Shipping Weight, Either One, 110 Pounds, Bundled



The K R W All-Steel Brake Drum Storage Rack is just what you need to keep these parts in serviceable and salable condition. In many stock rooms, brake drums are stacked on rods or just piled one on another like cordwood. Unless packing is placed between them, the hubs will damage the roller bearing races and the paint will become scratched and shopworn. Your customers want new merchandise as it left the factory, they are entitled to it. SAVE SPACE and "slick-up" your stock room by installing these inexpensive racks. The A rack holds 27 assemblies, requires floor space 39 x 15 inches, 63 inches high. The AA holds 14 assemblies, floor space 39 x 19 1/4 inches, 63 inches high. Shipped knocked down and bundled.

K R W "BENCH TYPE" ARBOR PRESS

No. 37D

PRICE \$22.00

Shipping Weight
140 Pounds

Hundreds of jobs now being done with vises and sledge hammers can be done much better and in a workmanlike manner with a K R W Bench Press. Good shops consider them a necessity. Consider the time they will save you and the cost will soon be forgotten. The K R W Press is oversize in every particular. Throat is extra deep taking work up to 13 inches in diameter. Ram is 1 1/2 x 1 1/2 x 17 inches. Largest Arbor is 1 1/2 inches. Height 22 1/2 inches. Takes up a space of 8 x 20 inches. Can be conveniently mounted on end of bench.



READ and SAVE the K R W NEWS. Each issue will be a supplement to this catalog.

K R W SPRING SPRAYER

No. 162 PRICE \$17.50

Shipping Weight 115 Pounds



Look it over! We think the KRW Spring Sprayer is just about the best outfit ever put on the market. It has been designed to use any penetrating oil or heavier oils. It can also be used for engine and chassis cleaning. The tank is 7 gallon capacity, made of heavy steel plate, welded construction, tested at 300 pounds pressure. Regulating valve on the handle enables the operator to obtain anything from a fine to a coarse stream with oil of any consistency. The hand lever is simply a gate valve and does not change the adjustment. The truck with single handle is of neat design and very convenient. 20 feet of oil proof hose is included. COMPARE this outfit, then the price with all others—KRW.

K R W GRAPHITE PENETRATING OIL

K R W Graphite Penetrating Oil is the highest quality product on the market. It is made for us, under our own brand by one of the oldest companies in the business. If purchased under the regular brand would cost you much more to cover advertising and selling expense.

5 Gallon Steel Drum	\$1.95 per gallon
30 Gallon Steel Drum	1.74 per gallon
55 Gallon Steel Drum	1.67 per gallon

F. O. B. Factory—New York City.

METERING GEAR LUBRICANT DISPENSER

25 Pound Capacity

No. 74B PRICE \$11.00

Shipping Weight 29 Pounds

This small gear lubricant dispenser, because of its oval shaped, tapered container is the easiest to carry of all hand portable lubrication outfits. The pump is valve-in-the-bottom positive displacement type delivering $\frac{1}{2}$ pint per stroke. The unit is mounted on a malleable iron base, with four feet. The hose is fitted with a self-closing one-man grease nozzle.



METERING EQUIPMENT

For Both Dispensers

The amount of grease dispensed registers clearly and exactly in pints. The number of pints required for one dispensing operation registering on the meter dial. The total number dispensed up to 100,000 pints, registers on the totalizer. Both meter and counter are absolutely tamper proof. It is impossible to set the meter hand ahead, or move the counter figures either forward or backward unless grease is actually being pumped. This metering equipment meets the most exacting requirements of "weights and measures" authorities.

100 POUND CAPACITY DISPENSER

No. 74C

PRICE \$14.00

Shipping Weight 62 Pounds



The larger portable gear lubricant dispenser handles easily, even in congested quarters. The head plate assembly drops into and securely fastens to the 100-lb. capacity steel drum which is provided as a part of the complete unit. The drum is securely fastened to the truck. When in operating position the truck wheels lift clear of the floor, and the unit will not move while being operated. The hose is fitted with the one-man, self-closing grease nozzle.

WHY PAY MECHANIC'S WAGES TO DOOR TENDERS?

Manual operation of service doors is obsolete, inefficient, and costly. Service to your customer should start when he drives up to your service entrance doors. Keep him waiting and you lose his good will. Install "AIR-DOR" Controls now.

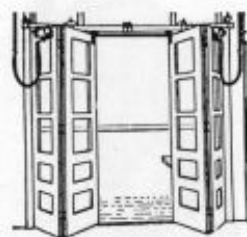
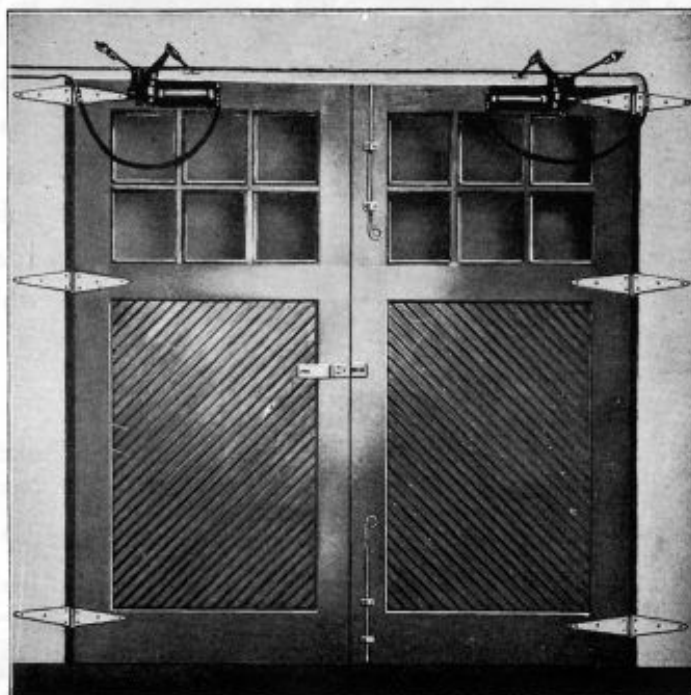


Single or Double Slide

"AIR-DOR" equipment for all styles of doors can be very easily installed by any average mechanic. The system is connected directly to your own air supply. The air passes through an electric operating valve which is controlled by switches placed at as many different locations in your building as desired. The equipment is adapted to all standard types of doors or any combination of such doors. A complete blue print accompanies each shipment and enables any mechanic to make the installation. All sets are electrically controlled.



A 6x30-in. enameled sign is also furnished to be attached to the doors.



Folding Doors

The complete "AIR-DOR" equipment consists of cylinders, bumper attachments, air hose, regulating valve, pressure reducing valve, transformer for A. C. current only, fuse blocks, two sets of operating switches, copper tubing and 100 ft. three strand red, white and blue armored cable wire. All electric parts are installed in a metal switch box.

"Air-Dor" controls using a small part of your own air supply as the motive power for both the opening and closing operation provide safety in operation.

PRICES

(F. O. B. Factory, Battle Creek, Mich.)

Set No. 164 { For all double folding or straight swing doors } \$140.00
 { For openings up to 144 square feet. }

Set No. 164A For openings larger than 144 sq. ft. \$172.00
 Set No. 155 For all single or double sliding doors \$140.00

K R W "AUTO HORSES"

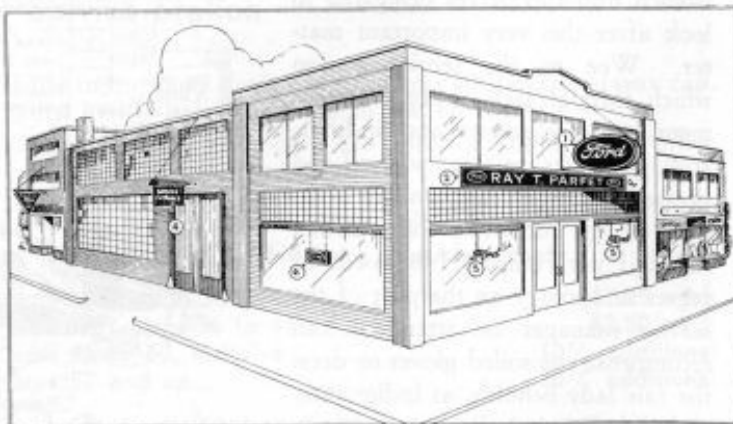
No. 161 Set of 4 PRICE \$6.00

Shipping Weight 27 Pounds Per Set

The K R W "Auto Horses" are now made on a large production basis and sold so cheap you can well afford to discard the old wooden blocks and "saw horses" which clutter up most shops. Think of it: a set of four all-malleable iron jacks for six dollars. They are instantly adjustable by half inches from 11 1/4 to 17 1/2 inches, by just lifting up the standard. The bases are 7 1/4 inches square with disc ground "Flat Feet". The car is jacked up to the desired height and the K R W horses placed under the frame or axle to be supported. Every shop needs several sets for use under wrecks, cars being painted, brakes relined or winter storage. Many of your own customers will be glad to purchase a set for their own use. Order a dozen sets for \$63.00 and save nine dollars.



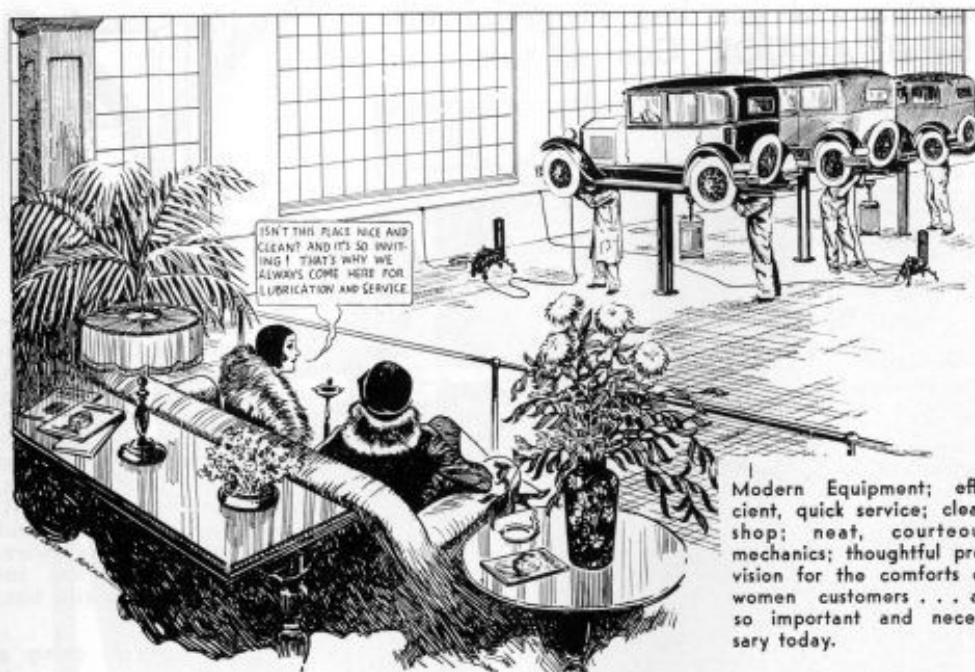
PORCELAIN ENAMELED STANDARD ELECTRIC SIGNS FOR FORD DEALERS



If interested in Electric Signs that will pay dividends, send for our new "Electric Sign Circular," showing approved signs for Ford dealers. The line is complete. We can furnish every kind of sign you need at interesting prices. K R W Signs always look new, never need repainting, therefore no upkeep cost. Service whenever necessary can be had from licensed sign makers and dealers throughout the United States.

CUSTOMERS' CONFIDENCE . . . YOUR GREATEST ASSET

A Clean Service Station, thoroughly equipped to turn out better jobs is the formula



FIRST impressions are sometimes lasting ones. Dealers should be particular to see that their service stations measure up to the high standards required to successfully operate against the keen competition which is so general today.

and cleanliness of both shop and mechanics; which can turn out better work in less time, still keeping the car, both inside and out, spotlessly clean—such a station finds no

IN this day and age when so many families possess more than one car, and nearly every woman drives her own or the family car, wise dealers will do well to consider carefully this ever increasing class of trade. Too much emphasis cannot be laid on the strict adherence to a policy of immaculate cleanliness in their service stations, both as regards the shop itself and the mechanics employed. This is as important as is the use of proper equipment.

In the business world, where all is hustle and bustle, and time is money, few men can spare the time or will take the trouble to see that their cars are serviced and lubricated regularly and properly. Hence many women find themselves delegated to look after this very important matter. Woe to the service station which, through lack of proper equipment, or carelessness and indifference, so messes up a car with oil and grease that when the woman steps into it she discovers her clothes soiled if not ruined. No words of regret or apology on the part of the service manager or attendant can recompense the soiled gloves or dress the fair lady beholds, as indignantly and with disgust written on her face, she drives her car out . . . never to return.

On the other hand, a service station with modern tools and service equipment, and which takes pride in its work and in the appearance

trouble in holding satisfied customers. A woman's observation is keen; her appreciation generous and one may be certain that when a woman finds such a service station she will naturally spread the good news to her many friends. Consequently that service station finds its business growing and its profits likewise. For with the best and most modern equipment, as shown, a service station can turn out a better job in much less time and with a larger profit. But even more important than this, it acquires and retains the confidence of its customers . . . which, after all, is the greatest asset any business can have.





No. 146
PRICE \$2.50
Each

IN LOTS OF 12 OR
MORE IN ONE
SHIPMENT, \$1.00
DOZ. LESS.

Front and back view of Coveralls or unionsuit. Made to fit properly and at the same time give complete freedom of movement in working.



No. 147
PRICE \$2.25
Each

IN LOTS OF 12 OR
MORE IN ONE
SHIPMENT, \$1.00
DOZ. LESS.

The above views show the neat tailored effect built into these Coats. Notice the excellent fit of the shoulders and around the collar.

K R W "ARISTOCRAT" COATS AND COVERALLS

Dress up all your mechanics in these natty looking outfits
and note the difference they create in the
appearance of your Service Station

THESE standardized FORD shop garments are built to rigid specifications of sturdy, pre-shrunk twill. A new developed shrinking process has taken 98% of the shrinkage from this material. Mineral dye only is used, making a fast color uniform, which does not change with successive washing. Honkong shade cloth, the specified FORD color, is used.

Construction of these garments is second only to tailor-made clothes. Triple stitched for better fit and extra insurance against ripping. All points of strain reinforced and bar-tacked. All buttons covered with fly front. Dress coat adjustable collar. No skimping at shoulders and chest. Convenient large reinforced pockets and side openings. Ford shop coats are supplied without belt and buckle. Ford embroidered emblem in blue and white over left breast. Ford Unionsuits are supplied with Ford embroidered emblem in blue and white on back of each garment.

OVERSEAS CAPS

These popular caps are made from the same pre-shrunk material as uniforms and coats. A very natty looking cap,

made in the same design as the Army uniform overseas cap. Word FORD is embroidered in red on front. These garments and caps can also be supplied in other colors. If interested write us for particulars.

No. 146 Honkong color unionsuit
No. 147 Honkong color shop coat

Shop coats, sizes 36 to 44.....	\$2.25 each
Unionsuits, sizes 36 to 44.....	\$2.50 each
Sizes 46 to 50, inclusive.....	10% additional
Sizes 52 and up.....	20% additional

Order OVERSEAS CAPS by Lot No. in hat sizes.

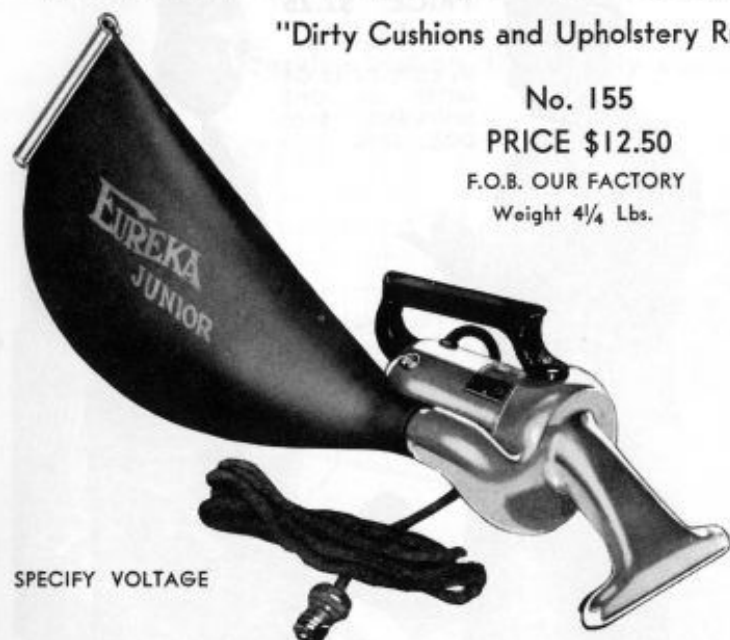
Lot No. 244 Honkong material.....	\$.50 each
Quantities of 12 or more.....	\$5.00 per dozen

F.O.B. Freeland, Pa.

We will refund your money or replace without charge any garment which does not give complete satisfaction.

"VACUUM CLEANING" IS JUST AS IMPORTANT AS WASHING

"Dirty Cushions and Upholstery Ruin Clean Clothes and Hats!"

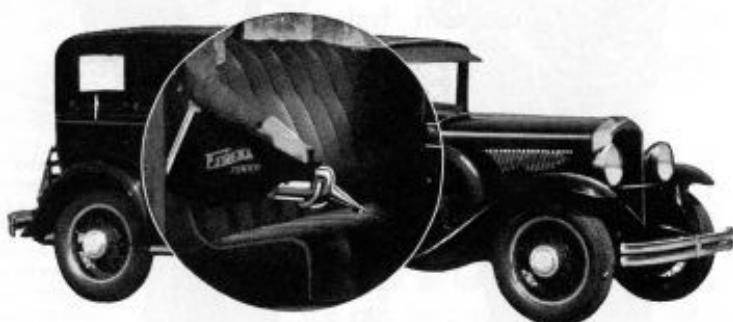


No. 155
PRICE \$12.50
F.O.B. OUR FACTORY
Weight 4¼ Lbs.

SPECIFY VOLTAGE

The EUREKA JR. Hand Cleaner is a combination household and automobile cleaner. It weighs but 4¼ pounds. The motor is larger and more powerful. Its design makes it most convenient for cleaning upholstery, car interiors, mattresses, etc. In fact many people find it faster and more convenient than large machines for cleaning rugs.

Modern service stations realize they must do more than just mop off the body of the car with water and a sponge. Better cars, flashier colors, and sporty design call for "perfect cleaning." Car owners are patronizing shops which will give them the best job. On another page is shown how a car can be washed perfectly clean all over—underneath—inside the wheels, axles, steering gear, etc., with much less effort than is required by old-fashioned methods. Cleaning the body and chassis is only part of the job. The cushions, upholstery and top liner are equally important. They serve as a stopping place for road dirt and dust which blows in the windows. If this is not frequently removed it becomes very dirty and will cause many suits, dresses and hats to be sent to the cleaner. If you really clean cars—Clean, then you will get more than your share of this kind of highly profitable service work.



EUREKA SPECIAL AUTOMOBILE CLEANER

No. 156—PRICE \$30.00



SPECIFY VOLTAGE

Shipping Weight 14 Lbs.

The EUREKA Special Automobile Cleaner has been designed especially for production work. It is very powerful. The attachments included will enable the operator to reach places inaccessible with regular cleaners. It is equipped with a special dust bag conveniently carried by the shoulder strap or handle similar to a camera or opera glasses. Its high vacuum assures a thorough cleaning job wherever it is used. We recommend this type of cleaner where the volume of business is large enough to keep a man busy. Eureka Vacuum Cleaners have won their place in the world and captured seven grand prizes at world's international expositions. Eureka are the world's largest manufacturers of Vacuum Cleaners.

GRAYBAR HANDY CLEANERETTE

No. 126—PRICE \$11.50

Graybar Cleanerette needs no introduction. Last year we sold thousands of them to Ford dealers throughout the world, and now we offer an improved model with 30% more suction, wider nozzle and a balanced handle, similar to the new style French telephone sets, 15 feet rubber covered cord with moulded rubber attachment plugs. Graybar branches and service stations are located in almost every city where there is a Ford branch in case service is ever required, it will be handy.

YOUR EMPLOYEES

might appreciate the opportunity to purchase any of these various Vacuum Cleaners, Washing and Ironing Machines, at the special low prices we are privileged to sell them to Ford Dealers. Compare our prices with those advertised at your local department stores, then you will more fully appreciate the savings effected by the special merchandising arrangement between Ford Service Department, K. R. Wilson and Ford Dealers.

Shipping Weight
6 Pounds



IN ORDERING THESE
VACUUM CLEANERS
BE SURE TO SPECIFY
VOLTAGE REQUIRED.

K R W FLOOR SCRUBBING AND POLISHING MACHINE

Cleans Floors Better — at one third of the labor cost

At our price this is the best all-purpose machine money can buy. Can be used efficiently both on the garage floors to scrub the grease and oil, leaving the floor spotlessly clean; or in the show-room for scrubbing, waxing and polishing. Perfect results are obtained in the least possible time, because the K R W Floor Machine is so designed that the entire weight is on the brush or attachment. Each machine is equipped with a fibra scrubbing brush, 10 inches in diameter, and 35 feet of heavy duty rubber covered cable. The motor is 1/3 H.P. and can be operated from any light socket. Net weight 65 pounds.



**No. 154
PRICE \$99.00
COMPLETE AS SHOWN
SHIPPING WEIGHT
90 LBS.**

LIST OF ATTACHMENTS



No. 1 FIBRE SCRUBBING BRUSH—Coarse bassine brush for all kinds of ordinary scrubbingPrice \$3.75

No. 2 WAX SPREADING BRUSH—For spreading wax on all kinds of floors.....Price \$3.75

No. 3 TAMPICO POLISHING BRUSH—Fine tampico brush for polishing all kinds of floors and floor coveringsPrice \$3.75

No. 4 STEEL WIRE BRUSH—For heavy scrubbing work, especially good for removing grease from garage floorsPrice \$6.00

No. 5 SANDPAPER DISC—With 18 sheets of sandpaper for smoothing down new or old wood floors; 5 sheets usually required for 100 square feet of floor spacePrice \$4.75

No. 6 BUFFING PAD—To be used on the show room floor following the polishing operation, it gives an unusual high polish and luster to the floor.....Price \$1.00

No. 7 PUMICE PAD—Thick heavy wool felt pad for use with water and pumice in removing stains and darkened appearance from tile and marble floors. Makes them look like new.....Price \$2.75

No. 9 CARBORUNDUM DISC—For grinding down marble and terazza floorsPrice \$5.00

No. 10 FLOOR SQUEEGEE WITH RUBBER EDGE—For pushing dirty water from scrubbed floor, and for pushing it into water pan. Leaves floor absolutely clean and drier than mopping.....Price \$1.75

No. 11 WATER PAN—For gathering up dirty water from floorPrice \$4.00

K R W GARAGE FLOOR CLEANER

No. 168	300 lb. Bbl.	11c	lb.
	100 lb. Kegs	12c	lb.
	50 lb. Kegs	12½c	lb.

K R W Garage Floor Cleaning Compound cleans the dirtiest floor in the least possible time and with a minimum of effort by the user.

Simply dissolve 3 lbs. of the Compound in a pail of hot water and it is ready to use. Pour solution over section to be cleaned (about eight square feet at a time), allow to remain a few minutes and then scrub thoroughly. While scrubbing also use Floor scraper to remove thickened and hardened oil, grease, etc. Finally flush section scrubbed with water, using as much pressure as available.

K R W CLEANER FOR TILE — MARBLE — MOSAIC — TERAZZA and COMPOSITIONS

No. 169	250 lbs. Barrels	7c	per pound
	80 lb. Kegs	8c	per pound

We recommend Volcanic Cleanser. It does an absolutely clean job, without marring or scratching the surface to be cleaned.

DIRECTIONS: Dampen the surface to be cleaned, then sprinkle the powder lightly thereon. Use Kent Floor Scrubber, then rinse with clean water. Do not throw powder directly into the water.

K R W CLEANER FOR LINOLEUM — HARDWOOD

No. 170	250 Pound ½ Bbls.	11c	per pound
	175 lb. Kegs	12c	per pound

We recommend our Soft Vegetable oil soap for cleaning Hardwood, Linoleum and composition covered floors. This product has the endorsement of all manufacturers of linoleum products and is so recommended to their patrons.

DIRECTIONS: A heaping tablespoonful of soap put into a pail, then fill pail with clear water, thoroughly mix to a soap suds solution, then pour over the surface to be cleaned. Use Kent Floor Scrubber, then rinse with clear water and dry.

K R W LIQUID FLOOR WAX

No. 171	Case—Six 1 Gal. Cans	\$2.50	per Gal.
	5 and 10 Gallon Containers	\$2.25	per Gal.

ZERO TESTERS—SHOP SIZE

No. 137

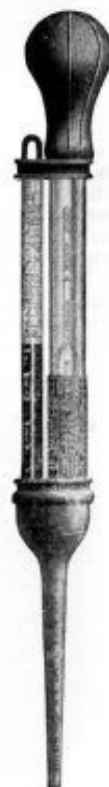
For Testing Eveready Prestone, Glycerine and Alcohol

Combines Hydrometer, Thermometer and Correction Table—All in One Instrument

This is the instrument used so widely by the leading service stations—that tests either Eveready Prestone, Glycerine, Ethyl-Alcohol radiator solution, and gives the exact freezing point of the solution, taking into consideration its temperature.

It is a highly accurate, professional-size instrument combining in one unit a hydrometer, thermometer and individual correction tables for each of the three solutions. Scales are in colors and thermometer is filled with a quick-acting liquid—easily read. Jar is "VITRITIX" heat-treated glass—will not crack from heat or cold. All glass parts are protected against breakage—cushioned between patented rubber tip and red rubber bulb. 20 inches long. Weight, 17 ounces.

COMBINATION	Dealer's Price, \$2.00
For Alcohol Only	Dealer's Price, \$1.35 (west of the Rockies)
For Eveready Prestone Only	Dealer's Price, \$1.35 (west of the Rockies)
For Glycerine Only	Dealer's Price, \$1.35 (west of the Rockies)



SAVE MONEY—WASH YOUR OWN OVERALLS, COATS AND TOWELS



Many Ford dealers and service stations now find it practical and more economical to launder their own overalls, shop coats, wiping rags, etc. Any handy man can do the work with very little effort and help maintain that standard of cleanliness which has been set for the new Model "A" car.

K R W - KEX SHOP TOWELS

No. 131

Shipped from Mill
Atlanta, Ga.

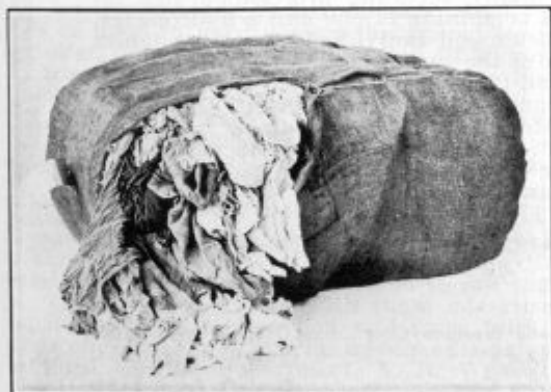


PRICE \$10.00

Per Bundle of
225

Shipping Weight
26 Lbs.

Use K R W - KEX towels to replace rags and waste. Cut this item of expense to one-third your present cost. That's what thousands of Ford dealers are doing. Kex towels are heavy and of such construction that they are highly absorbent. Washing improves and makes them softer. They can be washed 25 to 50 Times. Laundries will clean them at 75c per hundred or your own men can do it as suggested above. Check up your bills for rags and waste for the past year and you will be surprised. Try out a bundle of Kex and you will thank us for the suggestion.



WASTE—Just What the Name Implies

K R W APEX WASHING MACHINE

No. 122—PRICE \$59.00

Probably one of the best known machines on the market, handled by department stores everywhere, and sold direct to Ford dealers and their employees at almost half the regular price. Beautiful white porcelain tub, heavy gauge, mounted on a brewster green under-structure. Bright nickel parts add to its beauty.

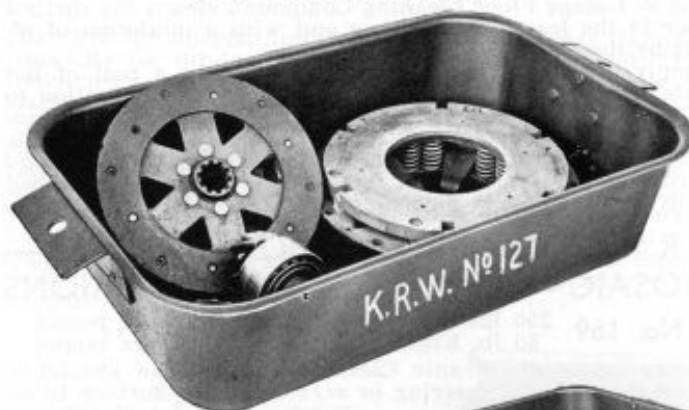
This new Apex has many improvements. Tangling or damage to clothing is impossible. The most delicate fabrics can be washed with perfect safety. Rapid an unusual water agitation penetrates thick or thin, fine or coarse clothing with creamy suds whipped into a foam by the turbulent water action. Compare the operation of Apex with all others, then you will appreciate its value. On account of our low price, \$10.00 or more must accompany order to guarantee transportation charges. Shipment direct from factory, Cleveland, Ohio.



Shipping Weight 245 Pounds

BE SURE TO SPECIFY CYCLE AND VOLTAGE WHEN ORDERING.

K R W TOTE PANS



No. 127

PRICE \$1.40 EACH

LOTS OF SIX OR MORE
WEIGH 12 LBS. EACH



K R W Tote Pans are superior to nearly all other types we have ever seen. They are heavy one-piece construction, being stamped from 16-gauge steel (1/16 of an inch). Inside measurements at the top, 22 x 14 x 5 3/4. Capacity, five gallons. This type of Tote Pan has a hundred and one uses around a shop and may be used for keeping the individual parts of a car together and in good condition, for draining crank-cases, rear axles, etc. Also for storage of new parts. Every Ford dealer can use from six to two dozen of these pans to good advantage. Keep your shop clean and in orderly condition.

K R W AUTO SOAP SUDS MAKING SYSTEM

No. 167



A System that will cut down your Soap costs—and it's FOOL PROOF! The System combines the K R W Suds Making Machine and K R W Special Medium Hard Auto Soap—a 100% pure vegetable oil product. The System is simple to install: connect with water spigot of your regular water line and it is ready for use.

Just by turning the control lever of the Suds Making Machine you can get SOAP SOLUTION . . . or PLAIN CLEAR WATER. You can procure a car washing solution, all soap thoroughly dissolved, of any strength desired—STRONG—MEDIUM—WEAK. No air pressure needed—the K R W Suds Making System will operate with as low as 1 lb. water pressure. Works equally well with hard or soft water.

Like all K R W built products the Suds Making Machine is simple in design—sturdy in construction—no moving parts, springs or delicate valves to get out of order. It is easily removed and replaced when a new drum of soap is needed.

The K R W Suds Making System represents the result of two years experimentation. Stringent tests have proved its ability to make car washing easier and reduce soap consumption.

This is another K R W Product that was designed to save you money—send in an order and begin to cut your soap costs from 30% to 50%.

The K R W Suds Making Machine cannot be purchased separately—supplied with K R W Special Medium Hard Auto Soap only.

450-lb. Steel Drum	11c per lb.
250-lb. Steel ½ Drum	11½c per lb.
The K R W Suds Making Machine	\$15.00 ea.

Shipping Weight 75 Pounds. Shipped from factory, New York City.

DIRECTIONS FOR OPERATING

The K R W Suds Making System is shipped in two separate units: Drum of Soap and a carton containing the Suds Making Machine. Remove cover from head of drum and fill well (in soap) with cold water. Unpack Suds Making Ma-

chine and fit properly into drum, then bolt on fast to drum head. Connect hose furnished to Suds Maker and water line and screw lever into place. Allow System to stand for two or three hours and it will then be ready for use.

K R W HARD OLIVE GREEN AUTO SOAP

No. 138C

(2-lb. Cakes)

K R W Hard Cake Soap will enable you to wash more cars per pound of soap; to keep an accurate record of your soap stock and prevent extravagant usage and waste. Gives abundant rich, creamy suds the instant water comes in contact with it. Will not streak the car's finish—can be used to the last sliver. K R W Hard Cake Soap is the most economical soap on the market and is harmless to any finish.

80-lb. Case (40 2-lb. Cakes)	11c per lb.
Three Case Lot Shipment, 240 lbs.	10½c per lb.

K R W SOFT JELLY AUTO SOAP

No. 138D

A 100% pure vegetable oil product of soft consistency—free from fillers.

No danger of streaking cars nor injuring Duco, Baked Enamel, Lacquer or Varnish finishes—A Safe Soap to use. Gives a rich, abundant suds that dissolve dirt, grease, grime and other stains instantly—rinses easily.

175-lb. Wood Keg	10½c per lb.
250-lb. Wood ½ Bbl.	10c per lb.
450-lb. Wood Bbl.	9½c per lb.

K R W HARD AUTO SOAP

No. 138B

(Barrel Form)

A Hard Auto Soap that is unequalled in quality. Put up in two grades: Olive Green and Amber.

Will give greater satisfaction and wash more cars per pound than any other barrel soap on the market today.

K R W Hard Auto Soap (Barrel form) is a 100% pure vegetable oil soap, free from fillers and is guaranteed not to streak nor injure any automobile finish. Lathers instantly and abundantly—rinses easily.

175-lb. Wood Keg	13½c per lb.
250-lb. Wood ½ Bbl.	13c per lb.
450-lb. Wood Bbl.	12c per lb.



K R W LIQUID AUTO SOAP

No. 138

K R W Liquid Auto Soap is without a doubt the finest liquid auto soap ever made. It is easier to use and is more economical than any other—does better work. Use a half teacupful of soap to a large pail of water. Guaranteed not to affect the finish whether it is Duco, Baked Enamel, Lacquer or Varnish—it will not streak it.

5-Gallon Can	\$1.70 per Gal.
30-Gallon Drum with faucet	1.20 per Gal.
55-Gallon Drum with faucet .....	.95 per Gal.

ALL SOAPS SHIPPED DIRECT FROM FACTORY IN NEW YORK CITY



K R W "Improved" HIGH PRESSURE CAR WASHER

None Better—at Any Price

\$125.00

F.O.B.
FACTORY
ARCADE, N. Y.



No. 102

Shipping Weight
350 Pounds

3½ GALLONS PER MINUTE AT 300 LB. PRESSURE—I H. P. HEAVY DUTY MOTOR—AMPLE POWER—TIMKEN AND HYATT BEARING EQUIPPED THRUOUT

All Parts Interchangeable and Replaceable



How Could They Wash Cars This Way? They Couldn't—and Never Did.

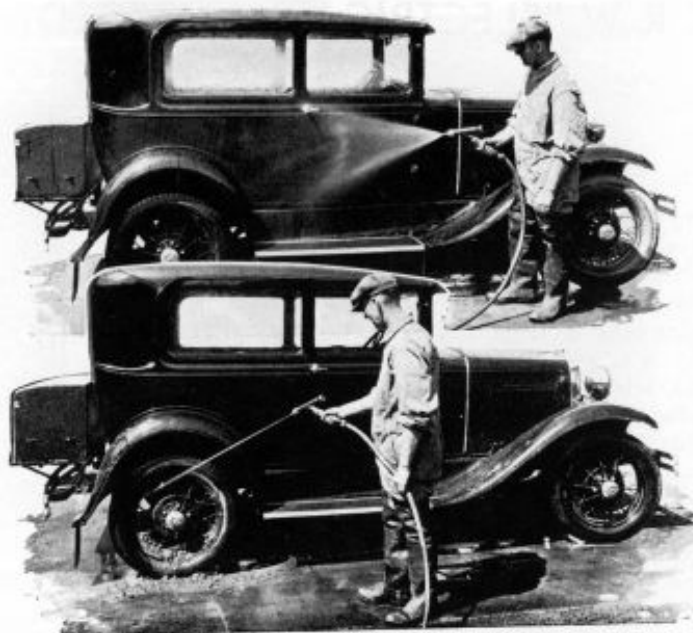


The Only Way to Really Wash a Car Right.

THE KRW "High Pressure" One Gun Car Washer is built for life-long service. All parts are machined to close limits in jigs and are interchangeable and replaceable. The cylinders, valves, valve cages, automatic by-pass and all fittings are made of special bronze composition to resist corrosion. The cylinder, if scored, can be replaced at a cost of \$1.50 in twelve minutes. The crankshaft is extra heavy, drop-forged, hardened and ground—mounted on two large Timken roller bearings. The connecting rod is bronze with a hardened steel sleeve for the Hyatt crank pin bearing. The cross-head and guide are likewise replaceable although so perfectly lubricated they will probably never wear. Speed reduction is accomplished by means of "Whitney chains" and sprockets, the same quality as used in the finest automobiles. These sprockets operate on Hyatt roller bearings. Chain adjustments can be made instantly, by loosening a lock nut and turning the "camshaft" of the center sprocket. The second chain by tilting the motor bracket. Every working part operates in a bath of oil and will last indefinitely. The motor is 1 HP heavy-duty repulsion-induction and will operate off lighting or power lines, 60 cycle, 110-220 volts. (See page 87 for other cycles and voltages). No expense has been spared to make this the finest product on the market, regardless of price. Our accumulated experience resulting from several years selling other makes has taught us how to build them RIGHT. Every KRW Car Washer is tested at full pressure under actual operation for 24 hours before being shipped. Compare the design and construction with any and all other makes, then consider that KRW builds it complete in his own factories, in large quantities—adds but a small profit and sells it direct to Ford dealers without the usual advertising and selling expense, jobbers' profits, etc.—at a price you can afford to pay. See pages 49-52.

IMPORTANT. A car washer alone cannot wash cars clean. Its purpose is to furnish water at high pressure to quickly remove the excess dirt and grease from unhandy places, so that a minimum amount of hand labor will be necessary. Soap and other cleaning solutions should not be used in the machine—but applied direct to the work where the solvent action can take place slowly. When used through a machine these solvents are wasted because the high pressure does not permit the solution to remain long enough to dissolve the dirt, grease and grime.

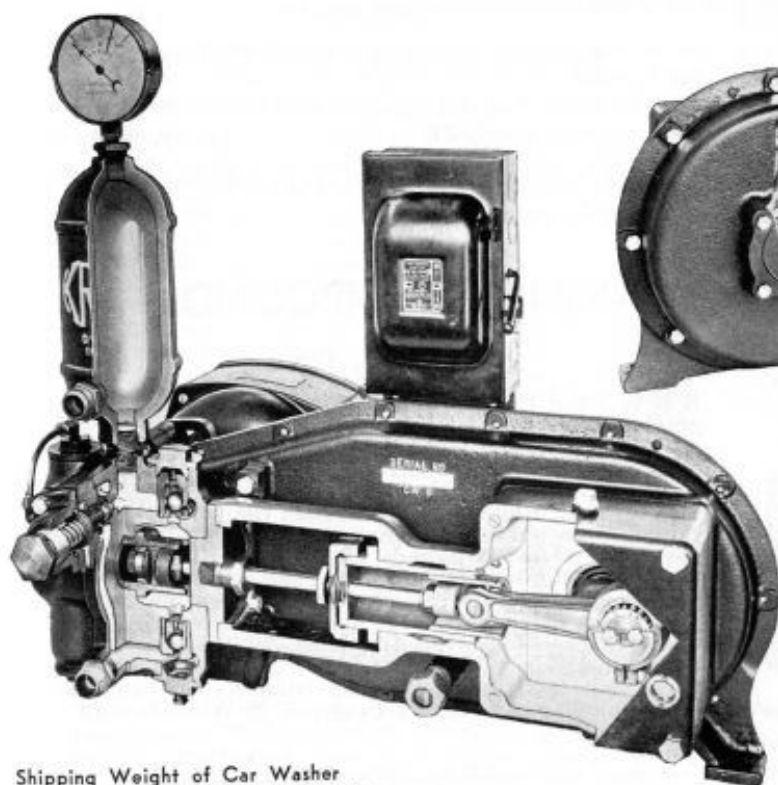
NOTE. A new KRW built, heavy duty, one gun (7¼ gallon nozzle capacity) machine will be available after September 15, 1931, to sell for about \$160.00. Full information and specifications will appear in KRW NEWS.



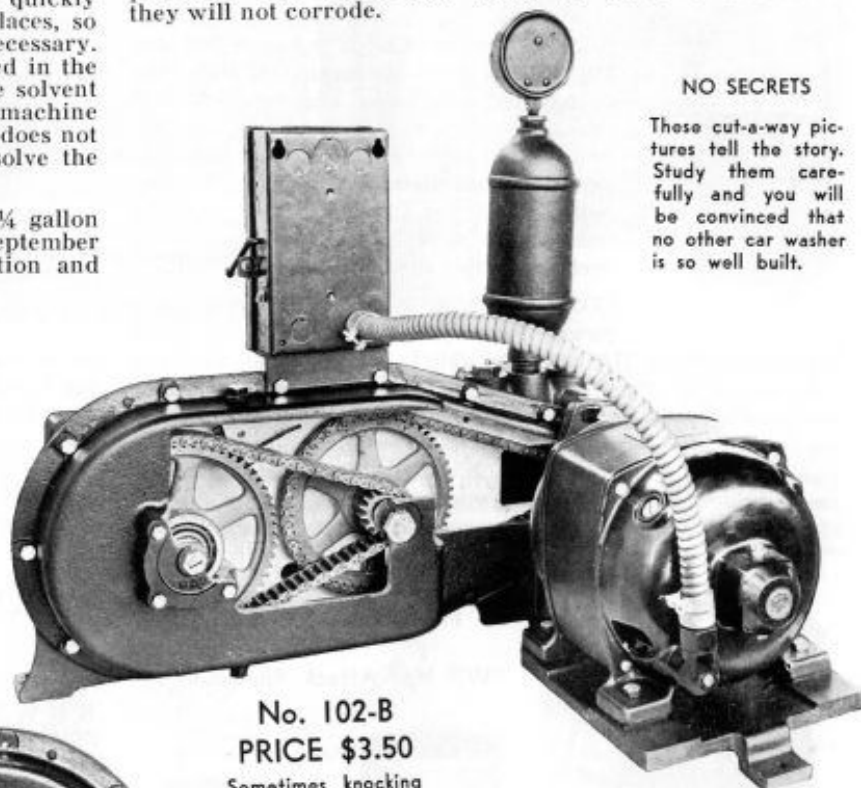
THE KRW "Gun" is correctly designed. Made of aluminum, it is light in weight and easy to handle. The nozzle can be instantly adjusted for either a fine spray for washing the body and top or a cutting stream for "peeling off" the mud, grease, etc., which has accumulated on the axle housings, brake drums, wheels, fenders, steering gear parts, etc., and cannot be easily removed with a sponge or ordinary water pressure. The nozzle and valves are made of bronze so they will not corrode.

NO SECRETS

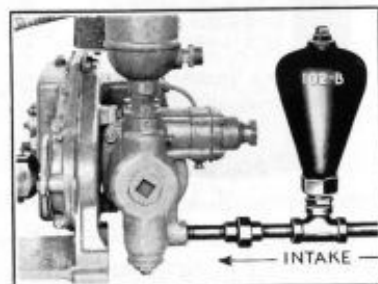
These cut-a-way pictures tell the story. Study them carefully and you will be convinced that no other car washer is so well built.



Shipping Weight of Car Washer Intake Dome, shown at right, 10 Lbs.



Sometimes knocking and pounding noises develop when the machine is connected direct to pipe lines of insufficient capacity. A reservoir large enough to fill the pump cylinder at every stroke must be provided. The KRW Air Done will do it satisfactorily when connected as shown.



K R W "ELECTRICALLY HEATED", AIR AGITATED CLEANING TANK

No. 114—PRICE \$99.00

F.O.B. OUR FACTORY, ARCADE, N. Y.

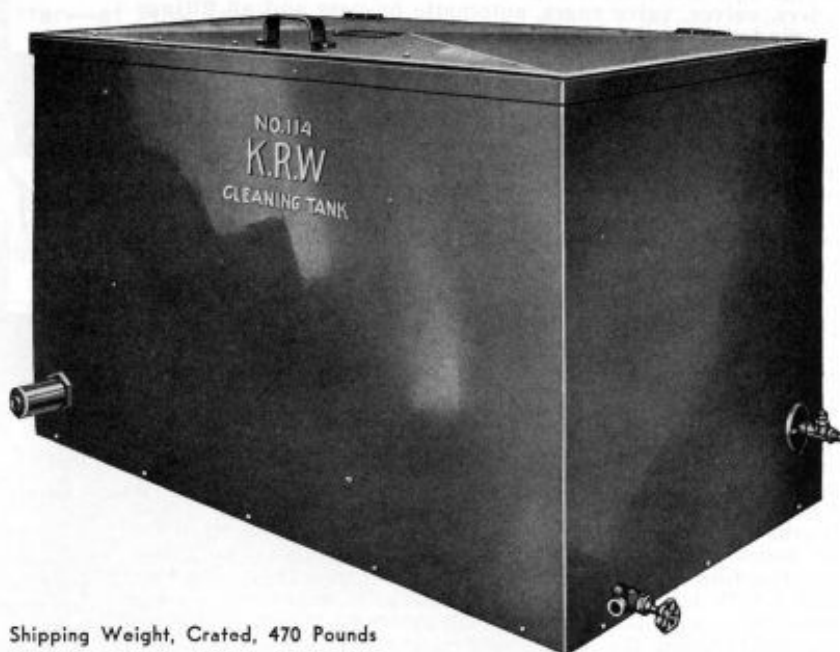
THE K R W parts cleaning tank is successful and economical because it is insulated like a refrigerator. The outer casing is made of heavy gauge sheet steel with welded joints. The inner tank is made of slightly lighter material, insulated with 1½ inches of rock wool insulation, which prevents the loss of heat by direct radiation. The tank measures 4 feet long, 2 feet wide, 30 inches deep inside. Capacity 125 gallons. The cover is well made and tight fitting to prevent evaporation and loss of heat. Drainage valve, filling and overflow connections are provided so that it can be connected direct to your water and sewer system.

The heater — 5 kilowatt capacity, 110 or 220 volts, direct or alternating current—is 98% efficient, and is operated only a few hours daily to keep the cleaning solution hot. In fact the temperature will drop only two degrees per hour after the heater is switched off. The electric

current is used only when necessary therefore only in proportion to the amount of work being placed in the tank. The best working temperature is between 168 and 180 degrees F. A perforated ¾-inch pipe is installed lengthwise and near the bottom of the tank to which an air line can be attached to give the solution complete agitation and better cleaning. A steel parts basket (as shown) is also supplied for the convenient handling of small parts such as bolts, nuts, shackles, pins, etc.



COST OF OPERATION: Multiply your power rate by 5 kilowatts which gives the cost per hour. If the power rate is .03c per hour, then the cost would be .15c. But as above stated you will probably not need to use the heater more than 3 to 5 hours out of 24 so the cost of operation, due to the tank being insulated, is even less than gas or oil heaters. It can be placed anywhere in your shop without increasing your insurance. Many dealers have installed gas, gasoline, kerosene and crankcase oil heat-



Shipping Weight, Crated, 470 Pounds

ers only to find their insurance boosted to a high level, thereby raising the indirect cost, and cost of operation to several times the cost of a K R W electrically heated unit. The costs of electric power varies in different localities so it is advisable to consult your electric company and obtain their lowest rates for this class of service, then you can decide for yourself.

A large number of Model A cars have now reached the age where major repairs are becoming necessary. It is therefore important that you secure all the necessary equipment NOW in order that you can turn out high grade work, the kind YOU would be satisfied with if you were the customer.

IMPORTANT:

Be sure to specify whether for 110 or 220 Direct or Alternating current. For 110 volts No. 6 wire and 50-ampere fuses must be used. For 220 volts No. 10 wire and 30-ampere fuses. If three-phase current is available, a lower priced power rate is usually obtainable, and a special 3-phase heater can be supplied at \$10.00 net extra. **CONSULT YOUR POWER COMPANY BEFORE ORDERING.**

K R W METAL PARTS CLEANING COMPOUND

No. 125

"Will Not Attack Aluminum"



300 lb. Barrels
6½c per lb.



100 lb. Kegs
7½c per lb.

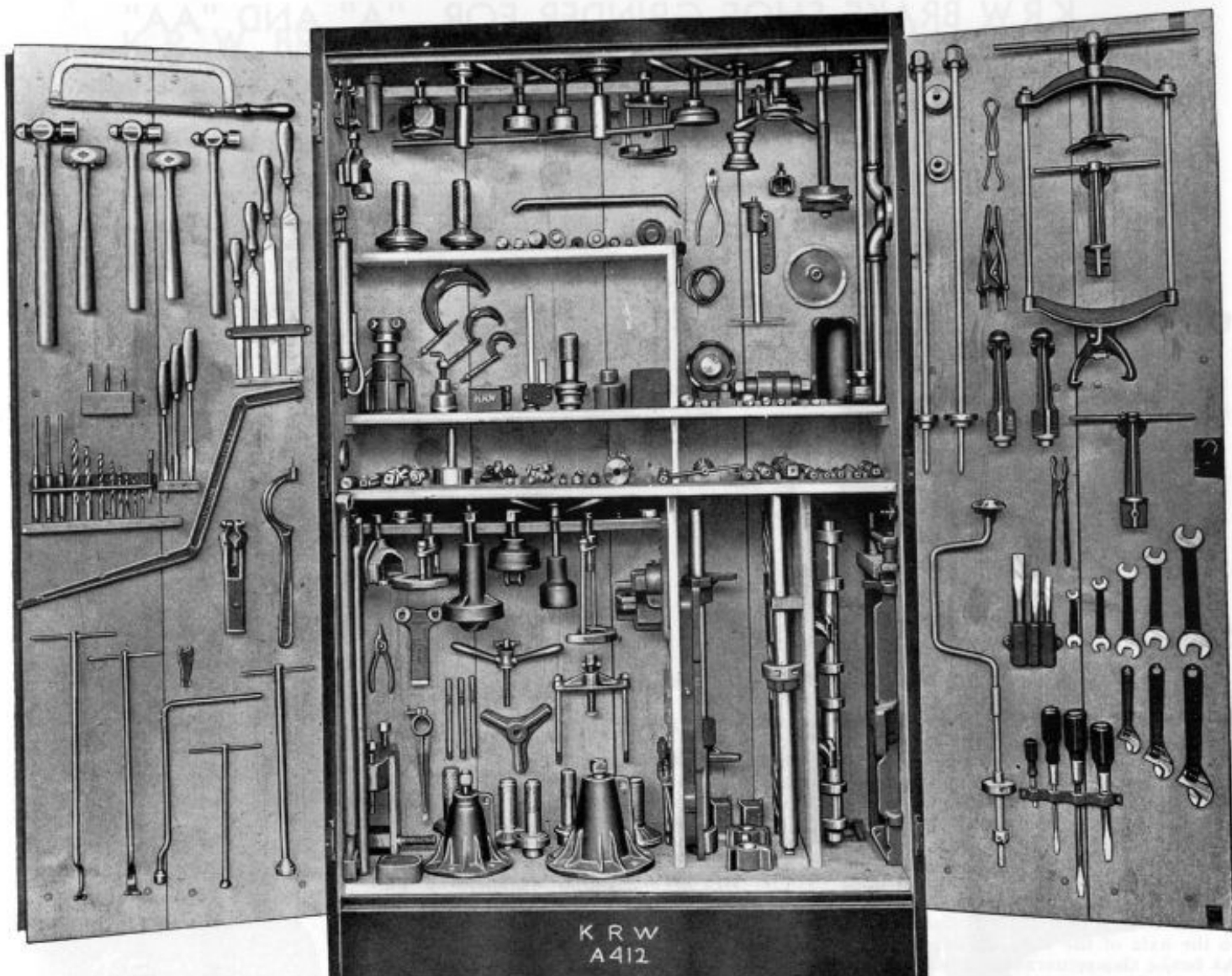


50 lb. Kegs
9c per lb.

For Direct Shipment From Factory in New York City

K R W Metal Parts Cleaning Compound has been especially compounded for use in heated cleaning tanks. Certain chemicals have been added to prevent corrosion and absorption of Aluminum pistons and other parts, a common occurrence when ordinary cleaning compounds are used. This factor is much more important than the price. K R W Compound is economical. Four ounces of powder to each gallon of water or 30 pounds for a complete recharge, which should last for weeks in the average garage. The old solution is often used for cleaning greasy garage floors, therefore serves two purposes at only one cost. Compare these prices with what you have been paying, on the basis of quantity used per gallon of water, and the results obtained. In most cases it is less than half. Buy from K R W and save the cost of advertising and selling. K R W saves you money on everything.

SEE PAGE 61—FOR FLOOR CLEANERS



K R W STEEL TOOL CABINET

"A Place for Everything — Everything in its Place"

No. A412

PRICE \$44.00

Shipped direct from Factory, Aurora, Ill. Weight 330 Lbs.

THE New K R W Steel Tool Cabinet has been built especially for the small and medium sized dealers who desire to keep all small tools in one place. It is made of heavy gauge steel, inner-lined with wood to protect the tools. The cabinet is 60 inches high, 45½ inches wide and 15¼ inches deep. It is equipped with special fittings to hold all items in the Timken Axle group; Houdaille test set; combination machine attachments; the new \$90.00 group; A4 generator group and many other miscellaneous tools as shown in picture. Additional space can be gained for new tools by a slight re-arrangement. Doors are extra heavy and fully re-inforced. A double "bolt" fastens them top and bottom by turning the handle. A lock affords protection against pilferage. This cabinet is designed and finished to match other steel equipment you may be using and is a worth while improvement in any repair shop, to say nothing of the saving of tools which are often missing because there was no place provided for them. Price does not include tools shown in picture.

New Cabinet for Motor Dept.

We are designing a smaller cabinet for use in motor department. To hold only such tools as are used to rebuild motors and transmissions. The convenient arrangement of tools will save considerable time on repair and overhaul jobs. Full particulars, price, etc., will be announced in K R W NEWS.

SO-HOT ELECTRIC HEATER

No. 166

PRICE \$2.00

The So-Hot Electric Heater will boil a pail of water in 25 to 30 minutes. Eliminates all fire hazards and danger from explosions. Made of pure aluminum. 8 feet rubber cord, etc., for use on regular light circuit. Can be used for heating pistons. Lowest priced heater made. Shipping Weight 2 Lbs.



We will soon announce a New Combined Electric Piston Heater and Pin Inserting Machine. It is foolproof, reliable, and a big time saver. . . Read about it in K R W NEWS.

K R W BRAKE SHOE GRINDER FOR "A" AND "AA"

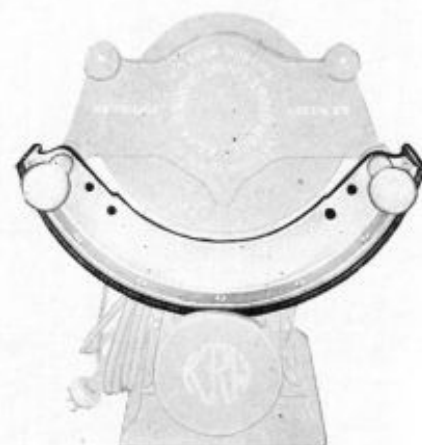
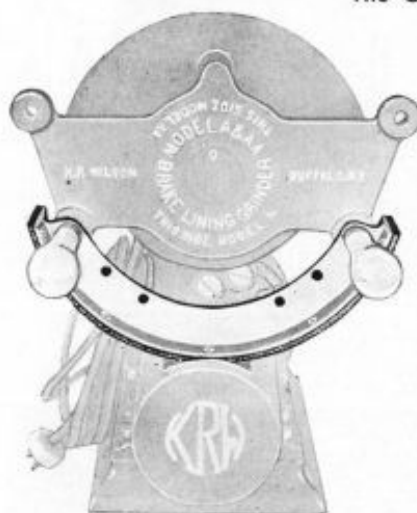
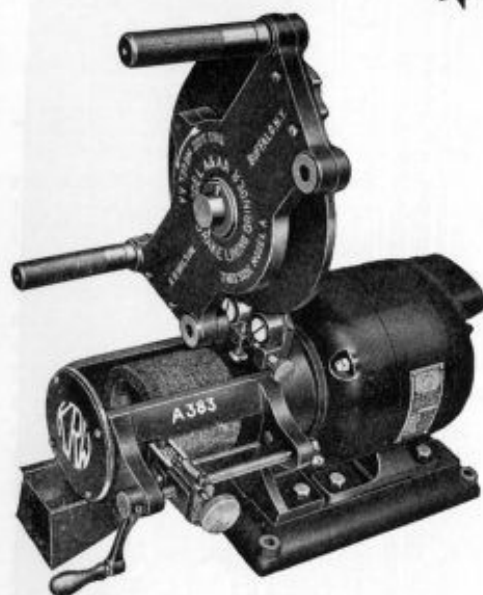


No. A383 PRICE \$35.00

F.O.B. OUR OWN FACTORY

Shipping Weight 85 Lbs.

"The Only Way to Get a 100% Braking Surface"



Scored Brake Drums Are Usually Caused by Badly Fitted Brake Linings

THE K R W Brake Shoe Grinder will do more towards producing efficient and smooth operating brakes than any other piece of equipment you can buy. Brake shoes are often bent, twisted and out-of-round. Brake lining varies in uniformity of thickness, with a result that the majority of brake shoes do not contact the brake drum more than 30 to 50 per cent., this of course reduces the braking capacity a similar amount. Proper brake adjustments are therefore impossible. Use a K R W Brake Shoe Grinder and get a 100% contact surface, in one minute. The brake shoe is held on this fixture in exactly the same manner as it is fastened to the axle of the car. Master cams for both model A and AA brake shoes guarantee a perfect circle and 100 per cent. contact. The Cams are slightly tapered at the ends so that a corresponding amount of taper will be ground off the ends of the brake lining. This will prevent the loose ends from "wedging" or locking the wheels.

A slight adjustment is also provided for changing the diameter to suit worn or refinished oversize brake drums. A Master Gauge for setting machine to standard size is included.

K R W Brake Shoe Grinders are now equipped with wheel truing device and dust catcher as shown. This attachment will be furnished for all older models at \$2.50 each, at factory.

IMPORTANT

Motor supplied is single phase 60 cycles to operate from lighting current. Other voltages and cycles including direct current \$5.00 extra. See "Motor" page.

IMPROPER OR INSUFFICIENT LUBRICATION

Is often the underlying cause of brake troubles. Some owners operate their cars thousands of miles between lubrications. The axle bearings become worn and loose, the brakes ineffective, new shoes are installed and adjusted. Little or no thought is given by mechanic to the wear in the bearing. It could be removed entirely for all the good it does. The lower brake shoe rides in the brake drum causing great friction and heat, loss of power, scored drums, unsatisfactory, dangerous brakes—and dissatisfied customers.

Pedestals shown elsewhere in this Catalog.

FIG. 1

Shows how the average brake lining fits in the drum after it has been relined. Please note only the ends of the lining contact with the brake drum.

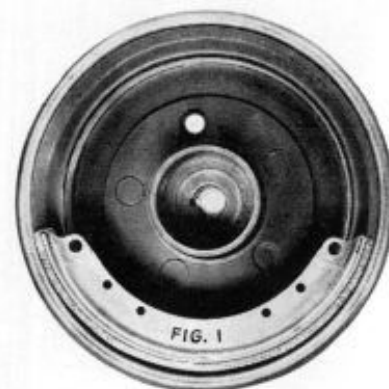


FIG. 2

Is an exaggerated picture made to better explain the cause of brake drums scoring, with only 3 or 4 square inches of brake lining contacting the brake drum. It naturally follows that greater pedal pressure is necessary to slow down the car. This causes intense friction and heat at these points which burns and scuffs up the smooth, rolled surface of the brake drum causing it to roughen and score.



FIG. 3

Shows a brake shoe in position which has been accurately ground to make a full contact in the brake drum. When pedal pressure is applied, it is equally distributed over the entire surface of the brake lining which is designed with sufficient capacity to stop the car without difficulty provided of course they are properly installed and adjusted.



K R W BRAKE AND CLUTCH RIVETING MACHINE

No. A374

PRICE \$22.00

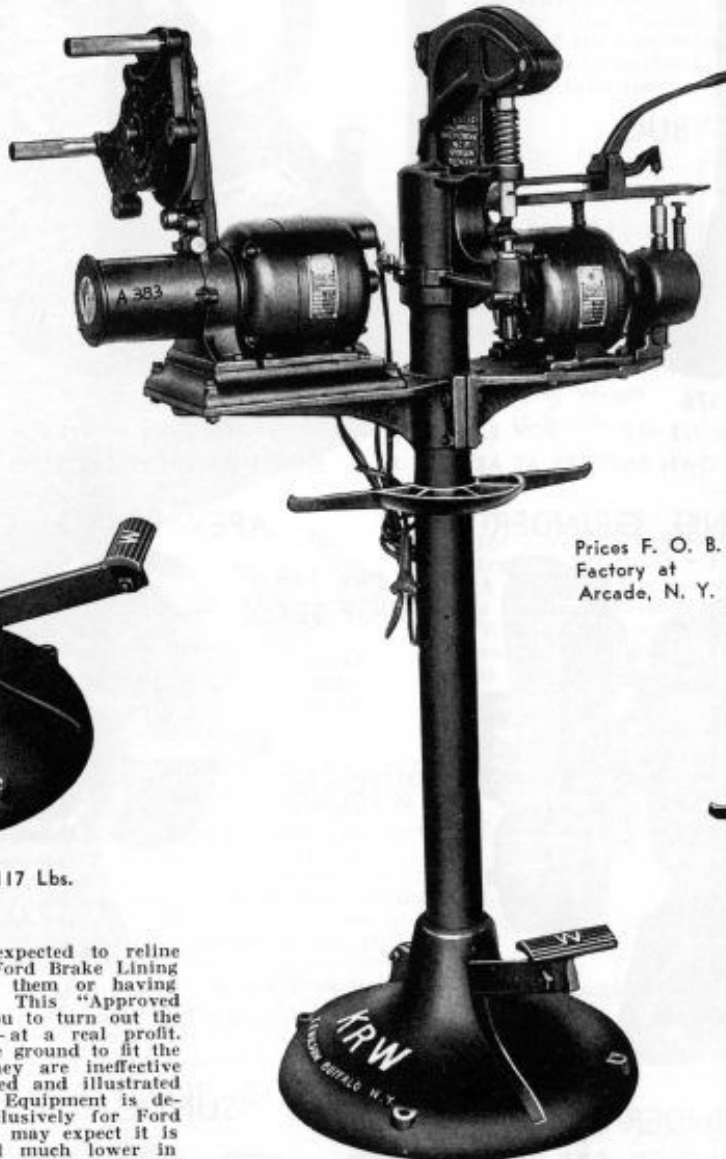
Including Break Band Stretchers for "A" and "AA"

THE KRW Brake and Clutch lining riveting machine is similar in design, but built stronger and more accurate than any other competitive machine. The head is made of semi-steel and designed for great strength. It is accurately machined in jigs to close limits. The main body is bored out to fit the column, instead of being left a rough, cored hole, to be clamped or fastened in place with set screws. The Column is threaded into the base—so that when assembled it makes a strong, substantial unit. A complete set of punches and rivet splitters to handle all Ford and truck brake bands and brake shoes is furnished. Brake band stretchers for both car and truck are included as a very necessary part of the equipment, at no extra cost—also a rivet tray for convenience.



Shipping Weight 117 Lbs.

ALL dealers are now expected to reline brakes with Genuine Ford Brake Lining instead of exchanging them or having the work done outside. This "Approved Equipment" will enable you to turn out the highest quality of work—at a real profit. Brake shoe linings must be ground to fit the brake drums otherwise they are ineffective and dangerous—as explained and illustrated on opposite page. KRW Equipment is designed and engineered exclusively for Ford repair shops, therefore you may expect it is better than any other and much lower in price.



Shipping Weight 170 Pounds

Prices F. O. B.
Factory at
Arcade, N. Y.

K R W BRAKE LINING DRILL AND COUNTERSINKER

No. A374B

PRICE \$22.00

THE KRW Brake Lining Drill and Countersinker has "everything"—including a new positive rivet hole locator, on which we have applied for patents. The Brake Band or shoe and lining is placed in position—the hand lever pressed downward so that the tapered point of the locator actually enters the drilled hole in the brake shoe, correctly aligning it with the drill. This also clamps the brake lining to avoid slipping. Additional pressure downward drills and countersinks the lining to any depth desired. The Motor is a 1/4 H.P. Sunlight "Reactor" type approved by all power companies for use on lighting circuits. Machine cut steel bevel gears run in a bath of oil. A thrust bearing on the drill shaft is also provided. This machine can easily be attached to any KRW brake riveting machine now in use. The price quoted (\$22.00) does not include the riveting machine shown at top of page. Motor is 60 cycle, 110 or 220 volt. See page 87 for other cycles, voltages and DC.

\$75.00 BUYS THIS COMBINED
DRILL - GRINDER - RIVETER

No. A374D

Save money and space: Buy all three machines at one time. This combined outfit is very compact and convenient. It includes all equipment necessary to turn out "perfect" brake relining jobs. No other make of equipment, regardless of price, equals it for accurate results. Others charge as much for their brake shoe grinder alone, as we do for the complete outfit.



Patents applied for

PRICE \$44.00
AS SHOWN

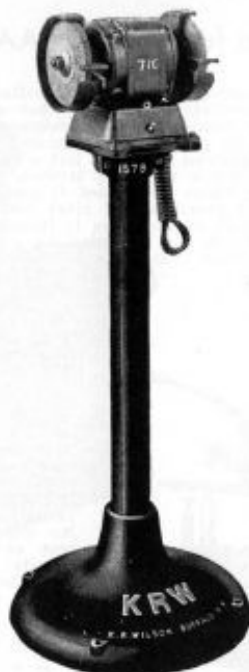
BE SURE
To Give Correct
Motor Specifications
when
ordering

Shipping
Weight
60 Lbs.

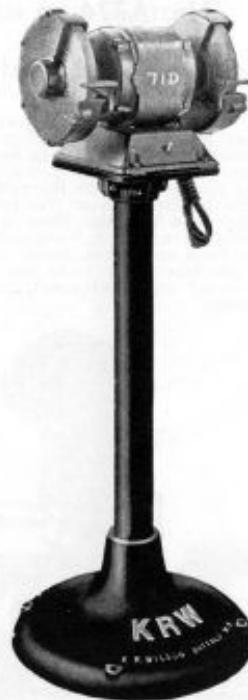
PEDESTALS FOR K R W GRINDERS \$7.50 EACH



No. 157G
FOR BRAKE GRINDER



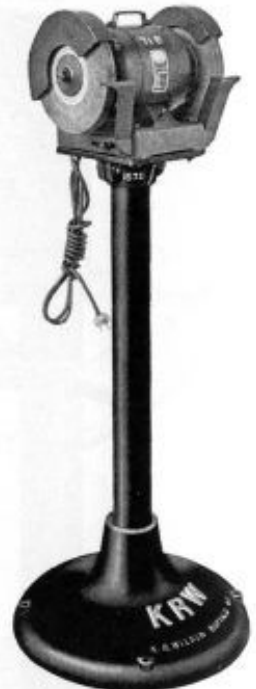
No. 157B
FOR BALDOR 1/3 H.P.



No. 157BA
FOR BALDOR 1/2 H.P.



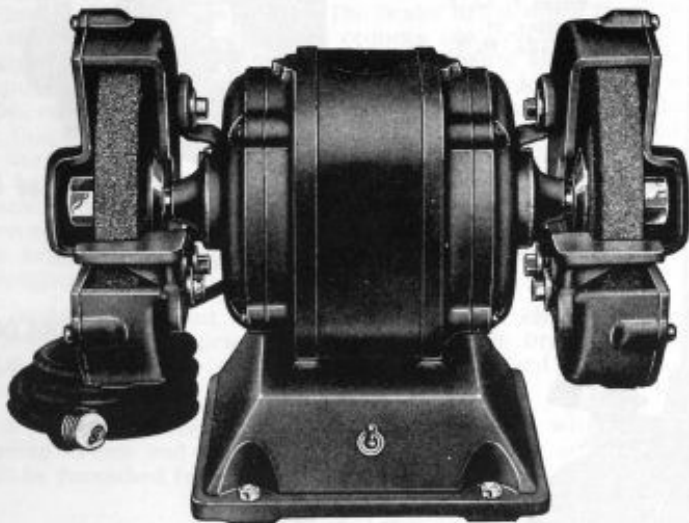
No. 157A
FOR APEX 1/3 H.P.



No. 157
FOR SUNLIGHT 1/3 H.P.

SHIPPED DIRECT FROM OUR OWN FACTORY AT ARCADE, N. Y. SHIPPING WEIGHT CRATED 80 POUNDS.

"BALDOR" BALL BEARING GRINDER



71C 1/3 H.P. BENCH GRINDER \$26.00

71D 1/2 H.P. BENCH GRINDER \$35.00

220 VOLT 10% EXTRA

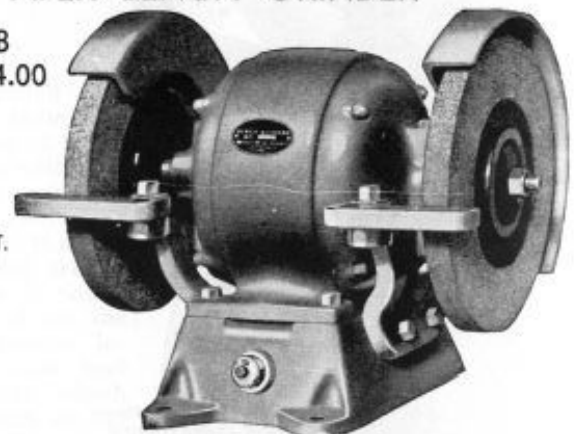
The Baldor Ball Bearing Grinder has been designed to incorporate every desirable feature. It has no brushes, commutator, or centrifugal switch. The speed is 3600 R.P.M. which gives fast grinding speed. The motor is dynamically balanced to eliminate vibration. The ball bearings are large, felt sealed, and need greasing about once a year. The motor is totally enclosed and dustproof. Capacitor Type Motor has low starting current that meets all power requirements of Boston, Buffalo, Chicago, and other cities where ordinary split phase motors are no longer permitted. It can be used on lighting or power currents. Heavy guards protect the operator against flying particles and the danger of cracked wheel. The 1/2 H.P. Model is exactly like picture and carries two 7 x 1-inch wheels. The 1/3 H.P. Model is similar except ends of wheels are not covered. It carries two 6 x 3/4-inch wheels. Prices given are for 110 volt, 60 cycle. Add 10% if 220 volt motor is required. Shipping wt. 1/3 H.P. Grinder 60 lbs.; 1/2 H.P. Grinder 95 lbs.

APEX BENCH GRINDER

No. 71B
PRICE \$24.00

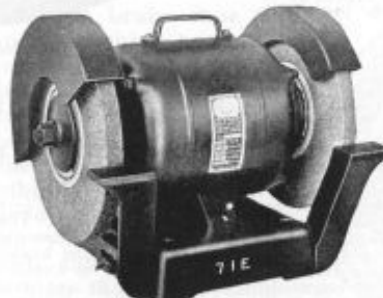
SPEED
1800
R.P.M.

SHIPPING WT.
65 POUNDS



The Apex 1/3d. HP Bench grinder carries two 8 x 3/4-inch wheels. Made in single phase AC 110-220 volt only, also 110-220-32 volt DC. Same prices all voltages mentioned. They now meet all efficiency requirements of power companies.

No. 71E "SUNLIGHT" BENCH GRINDER
\$22.00



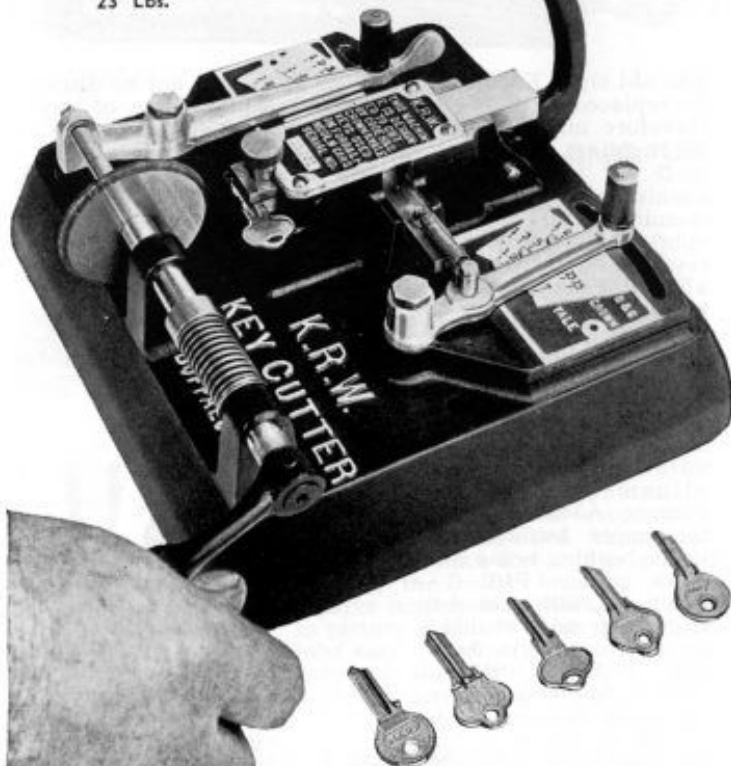
The Sunlight 1/3 H.P. Ball Bearing Bench Grinder is fully enclosed and dust proof. It carries two 7 x 3/4-inch fine and coarse wheels. Tool rests are adjustable to compensate for wear on wheels. Being a Reactor type motor it is approved by all Power Companies for use on single phase lines the same as explained on Baldor. Pedestal can be furnished to fit. Shipping weight about 65 lbs.

CONSULT YOUR POWER COMPANY BEFORE ORDERING. GIVE CYCLE AND VOLTAGE

K R W KEY CUTTER

No. A388
PRICE \$20.00

Shipping Weight
23 Lbs.



The KRW Key Cutter has been perfected to make key cutting a simple, inexpensive operation. For accuracy it has no equal. Every lever has a spring tension so there is no lost motion. The Rotary file actually cuts the metal without distortion. To operate:—Get the number on the lock, then select the proper key blank. With this number you will find a corresponding number in the code book which explains just where to place the levers on key cutting machine for each notch in the key. Large volume production makes this low price possible. It is less than half the price of other makes. Order yours today, for when you have need for a key cutter YOU NEED IT BADLY.

K R W - HUFF ACETYLENE SOLDERING TORCH

No. 124—PRICE \$4.00 Postpaid

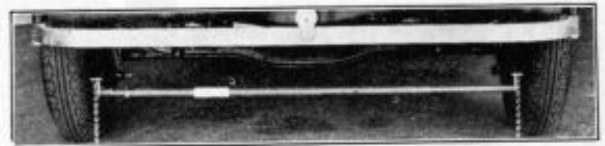


The K R W-Huff Acetylene Torch is designed and built to take the place of a soldering iron and blow torch. Intense heat is instantly available. A pure, clean flame makes quicker tinning and a smoother job on all surfaces—flowing the solder into the seams for secure joints. It is more economical than any other method of soldering, consumes only one-half cubic foot of acetylene gas per hour. It gives a flame temperature up to 2300 degrees. This torch is unconditionally guaranteed and will be repaired or replaced without charge. Competitive torches sell for twice as much.

DUBY FRONT WHEEL ALIGNMENT INDICATOR

No. 95—PRICE \$8.50

Shipping Weight 7 Pounds



The Duby Ideal Wheel Gauge has been found accurate. It is the only gauge which insures the same conditions for both first and second measurements. It automatically gives the correct amount of toe-in, without making special allowances. The Pointer and scale are plainly visible from the front of the car, when the gauge is in position. It is simple and easy to understand. Ordinary mechanics get results. Full instructions for various wheel tests accompany each gauge.

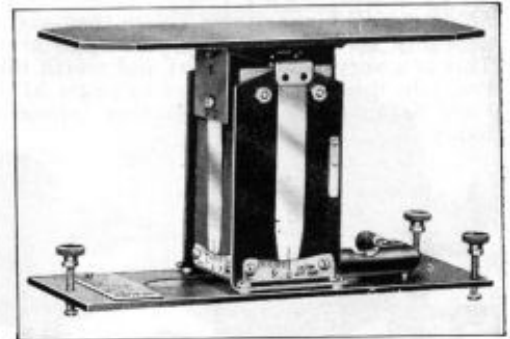
DUBY AXLE TILT GAUGE

No. 121

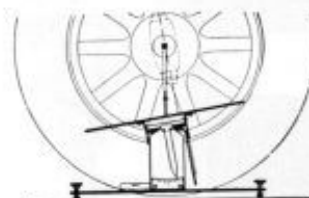
PRICE

\$16.50

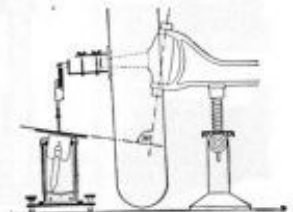
Shipping Weight
12 Pounds.



The Duby Axle Tilt Gauge is a simple but scientific device for accurately detecting the cause and remedy of steering troubles, such as shimmying, wandering, buckling under, etc. A tiltable table which is placed at the side of the wheel and a compass arm which is clamped on the end of the spindle. When the steering wheel is turned, the compass arm will swing in an arc with the king pin as its axis, and the table is then tilted by the operator to conform to this arc. The castor angle and camber or outward slant of the king pin are both registered in one operation by showing the number of degrees the table is tilted to conform with the plane of the arc. The working principle can be readily understood by referring to these cuts.



Showing Castor Angle



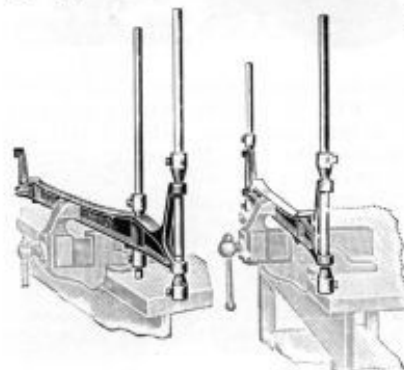
Showing Outward Slant

Complete instructions for the elimination of all steering troubles is furnished with each gauge.

K R W AXLE ALIGNMENT INDICATORS

No. 89 PRICE \$3.50

Postpaid



It is no trouble to straighten axles correctly when you use these indicators. They find the bends and twists that cause shimmying and tire wear. The low cost of this set now makes it possible for all shops to repair axles so that they steer correctly. For A-T-Trucks.

K R W "GEMMER" STEERING SECTOR SET

★ No. A403

PRICE \$9.00 Set



Shipping Weight
9 Pounds

Study the pictures shown below then you will appreciate the necessity for this set of tools—there aren't any substitutes. This is a very well made set and worth their cost on the first two jobs done. Please refer to pages 517-518 December 1930 Ford Service bulletin for further information. Order yours today.

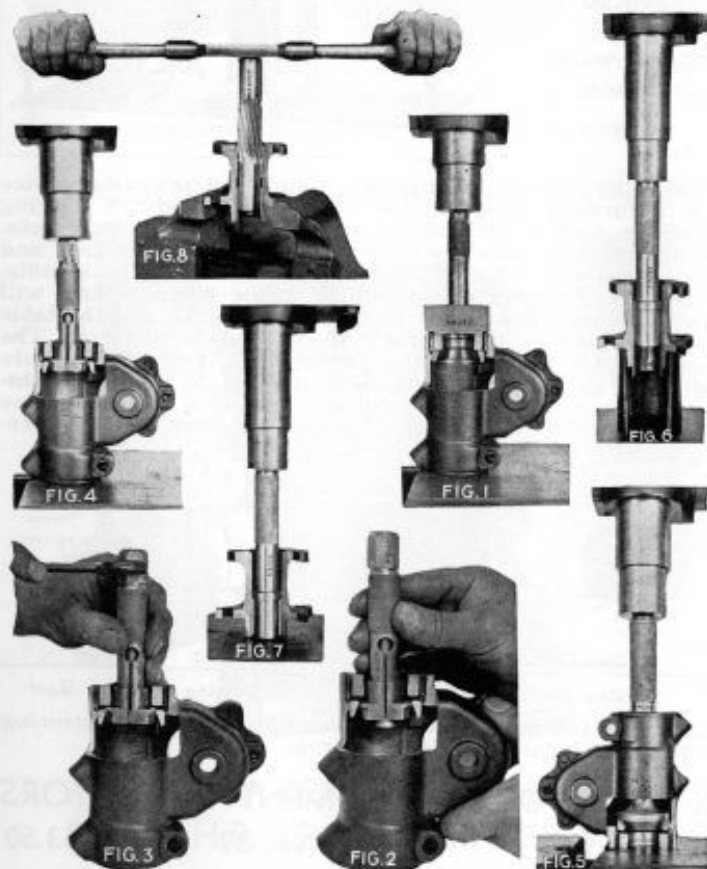


FIG. 1—Driver A403C used with Arbor press or light sledge to start roller bearing cone. FIG. 2—Driver A403A must be slightly compressed to get it into position. FIG. 3—Driver A403A in position being expanded to grip the roller bearing race. FIG. 4—Driver A403A pressing the roller bearing race out. FIG. 5—Driver A403B pressing a new race into position. FIG. 6—Driver A403E pressing out both bronze bushings from the steering worm housing cover, at one operation. FIG. 7—Driver A403E used to press new bushings in place. When end of driver hits Arbor press bed plate, then first bushing is Okey. Top bushing is pressed in flush. FIG. 8—Reamer A403D reaming both steering worm housing bushings. Pilot insures perfect alignment.

K R W "FORD" STEERING SECTOR SET

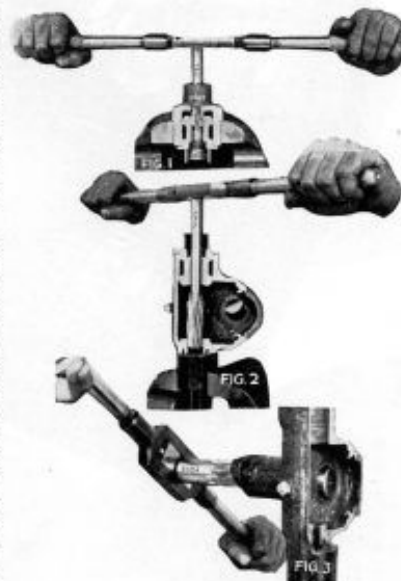
★ No. A348

PRICE \$10.50 Set



The old style, Ford Built Steering gears will not be discarded or replaced with "Gemmer type" except in case of wrecks, therefore many of them will be coming in for repairs and overhauling. This complete set of reamers, a bushing driver and a reaming fixture will enable you to get accurate results and turn out the kind of a job that's safe to drive. There is no substitute for a good job. You need this complete set.

FIG. 1—Reamer A348C used to ream the lower bushing—using Fixture A348E to insure correct alignment. FIG. 2—Reamer A348D reaming the upper bushing, the lower bushing being used as a guide. FIG. 3—Reamer A348B is used to ream both main bushings in steering worm housing. DRIVER A348A is used to press the steering worm housing bushings in or out in a similar manner described by Fig. 6-7 on the Gemmer set.



K R W "OFFSET" STEERING POST SCREWDRIVER

★

No. A345

PRICE 50c

6 for \$2.00



This tool is absolutely necessary for adjusting "Gemmer" Steering gears in the car. See Fig. 640-649 February 1929 Ford Service Bulletin. Made from a drop forging of tough alloy steel.

K R W STEERING WHEEL PULLER ★

A373 PRICE \$3.00

Shipping Weight 3 Lbs.

You will appreciate the value of this tool after you have tried to pull off the new style 1930-31 steering wheels—without it. All parts are forgings, jaws are rubber lined to prevent damage to the edge of the moulded hub. Your cost of two wheels ruined by other substitutes, pays for it.



REAR SPRING PERCH BALLS CAN NOW BE REPLACED



No. A377

PRICE \$2.00

It is no longer necessary to discard the whole rear axle housing when the perch ball is worn. It can easily be replaced as shown by the pictures. The Ford part No. A4024 retails for 10c. A half-inch drill is used. The K R W (A377) Special Taper Reamer makes a perfect fit. The reamer only is furnished.

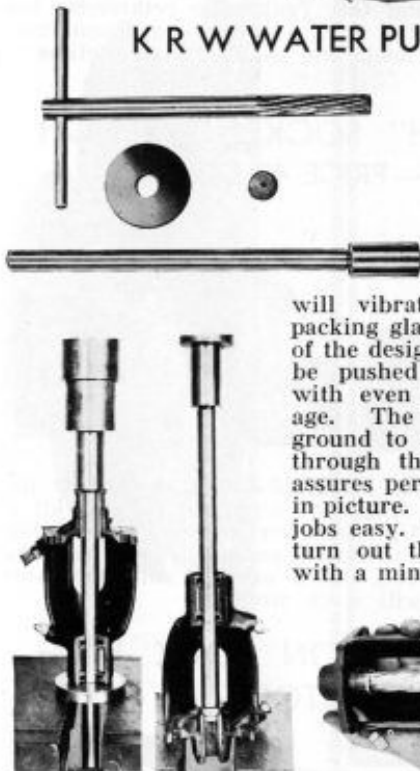


K R W WATER PUMP BUSHING SET

★ No. A347
PRICE \$5.00

Shipping Weight 5 Lbs.

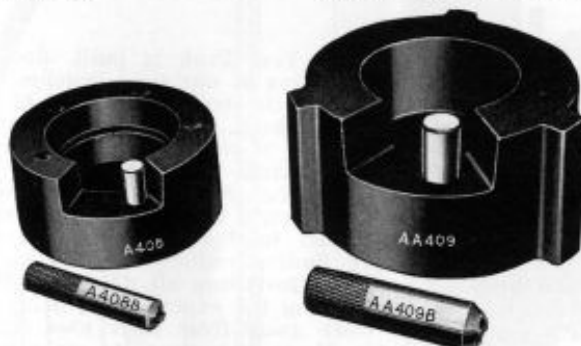
Water pump bushings must be installed correctly otherwise plenty of noise and trouble will develop. Fan will vibrate and be noisy. The packing gland will leak. On account of the design of this bushing it must be pushed in absolutely straight, with even pressure to avoid damage. The T handled reamer is ground to exact size. It is piloted through the roller bearing, which assures perfect alignment, as shown in picture. K R W tools make these jobs easy. Ordinary mechanics can turn out the best quality of work with a minimum amount of labor.



K R W HUB BOLT SWAGE

No. A408
No. AA409

Model "A" PRICE \$5.00
Truck "AA" PRICE \$7.50



Save time, money and transportation charges by changing brake drums or hubs yourself. These heavy semi-steel fixtures will enable you to do the work easily and quickly. The anvils and upsetters are made from tough alloy steel, heat treated and hardened. The Model A weighs 22 lbs. The Truck AA about 75 lbs. This job must be done with care otherwise if the hub is distorted in any way it will wobble and throw the brake drum out of a true circle.

K R W CRANK-SHAFT GEAR PULLER

No. A410
PRICE \$2.75

Shipping Weight
5 Pounds



The K R W Crankshaft Timing Gear Puller (No. A410) is a very strong tool—made entirely of drop forgings, carefully machined and heat treated. These tools are seldom used but worth their cost, sometimes on one job on account of the time saved over other methods.



K R W CRANK-SHAFT GEAR PRESS
No. A411
PRICE \$1.50

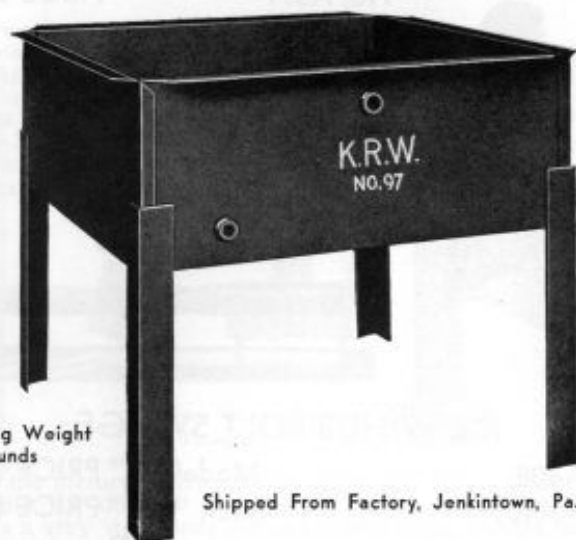
Shipping Weight 2 Pounds

The K R W Crankshaft Gear Press is a companion for the K R W Timing Gear Puller (shown opposite). It is used for replacing the gears without removing the crankshaft. The Stud screws into the end of the crankshaft, and the large nut forces the gear into place.



K R W RADIATOR TEST TANK

No. 97 — PRICE \$26.00



Shipping Weight
200 Pounds

Shipped From Factory, Jenkintown, Pa.

The K R W Radiator Repair Test Tank is built along the same general line of construction as our steel benches. The Tank is made of one-eighth-inch steel. Measures 40 x 40 inches inside. It is 36 inches high. The tank is 15 inches deep. Wide flanges on the top of the tank make it easy to attach a wooden rack where actual repairs are made. Pipe connections to connect with the water system and sewer. All joints including legs are electric welded, making a sturdy job that will stand up under hard service, and the usual abuse. Many dealers are finding radiator repairs so easy and profitable they are now installing all necessary equipment for this work, and saving the expense and delay incidental to sending this work away from their own shop to the so called "specialist." He is in business to make money and must get a profit. Add all this together and you will be surprised to see how much money has been slipping through your fingers.

K R W "LOW DOWN" ALL STEEL CREEPER

No. 76

PRICE \$3.00



Shipping Weight
Crated 20 Lbs.

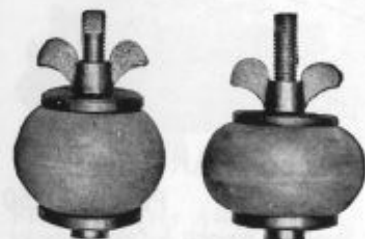
A well designed, sturdily built all steel creeper that will stand rough usage. Built extremely low, greatest height only 3 inches from the floor. Four large 2-inch ball bearing casters which enables the mechanic to move easily under the car.

K R W "A and T" RADIATOR TEST PLUG SET

No. 139

PRICE \$2.25

Shipping Weight 2 Pounds



Consists of 3 India Rubber Plugs, two 1½" diameter and one 1¼" diameter. Both inlet and outlet plugs are assembled on threaded brass stems, and compressed by means of wing nut to completely fill the radiator inlet and outlet pipes. The Schrader air valve, furnished, should be

permanently assembled into the Ford filler cap, and provides a quick way for applying air pressure to the radiator.



K R W RETHREADER

For Gas Tank and Radiator Tubes

No. A346 — PRICE \$3.50

Shipping Weight 4 Lbs.



The K R W Radiator and Gas Tank tube rethreader has been especially designed for rethreading damaged and cross threads. It is very well made and should last a lifetime of ordinary service.

K R W "ZENITH" SOCKET WRENCH

No. A359 — PRICE 40 CENTS



The K R W Socket Wrench for Ford-Zenith carburetor jets is an important tool and should be a part of the tool kit of every Ford Mechanic. Up-to-now very few Ford Dealers have paid much attention to Fuel economy, Smooth running, Maximum power and speed. Very often slight changes in carburetor adjustments will work wonders.

K R W TRANSMISSION LOCK RING EXTRACTOR



★ No. A336

PRICE 40 Cents Postpaid

A very necessary tool for removing or replacing locking rings on transmission or clutch shafts, without damage.

ORDER ONE FOR EACH OF YOUR MECHANICS.

K R W "MAGNETIC" FISHER

No. 164 — PRICE \$1.50



For picking up bolts, nuts, cotter pins, wrist pins that have a habit of dropping into difficult places to reach. Can be bent for various purposes, has leads and clips so that it can be fastened to the most convenient place. Operates on 6-volt battery, current draws 2½ amps. Will hold suspended 1½ lbs. Pull about 13 lbs.

Shipping Weight 2 Lbs.

MAKE USE OF THIS SPECIAL CATALOG



MODERNIZE YOUR PARTS DEPARTMENT NOW!

K R W "Sensible Prices" Saves You 30-60% Over Competitive Prices

WE are sending one of these K R W-Equipto Catalogs, with newly Revised Price List attached, to every Ford Dealer and Service Station. If for any reason you have not received your copy, send for one. Consult it before ordering any Parts Bins, Shelving, Stands, Benches or other items.

K R W-Equipto Products are far superior in quality and rigid construction to all other makes, regardless of price. Our prices are so low that every dealer can well afford to discard the obsolete and makeshift bins and other pieces and install this better and more mod-

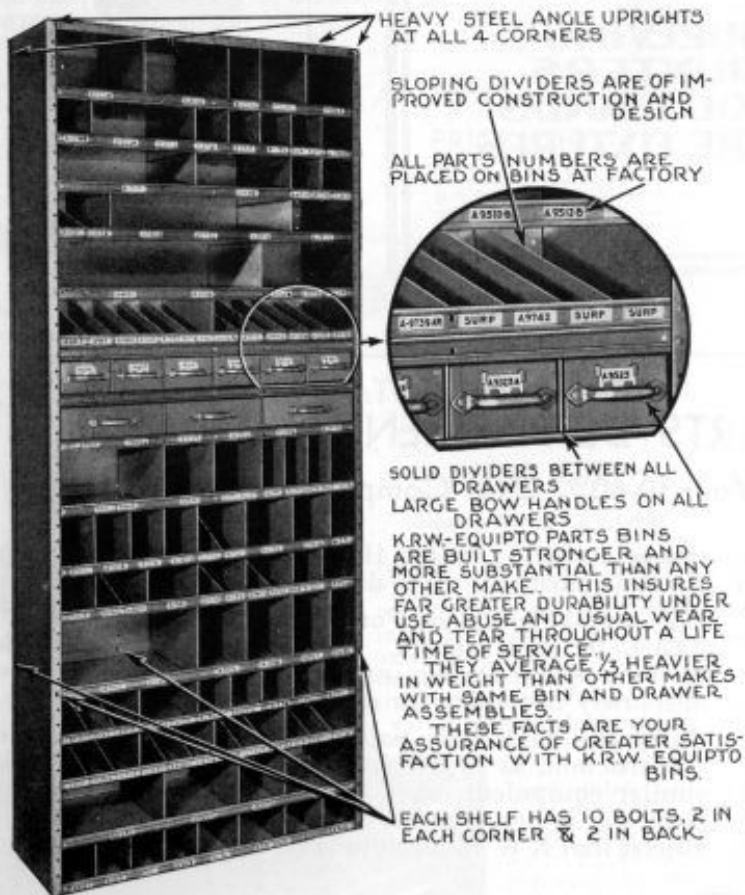
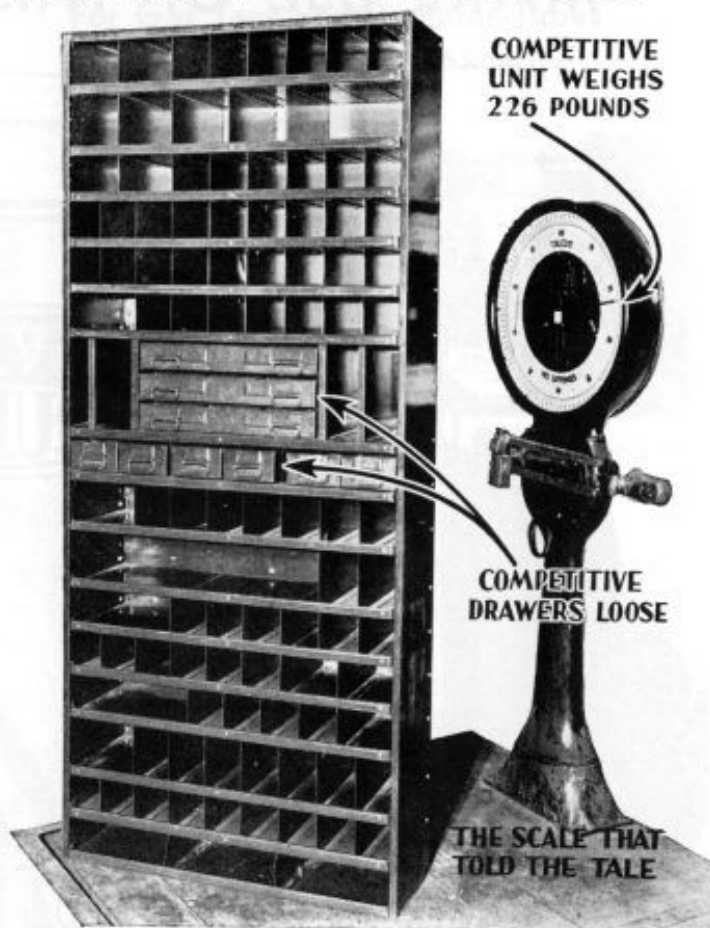
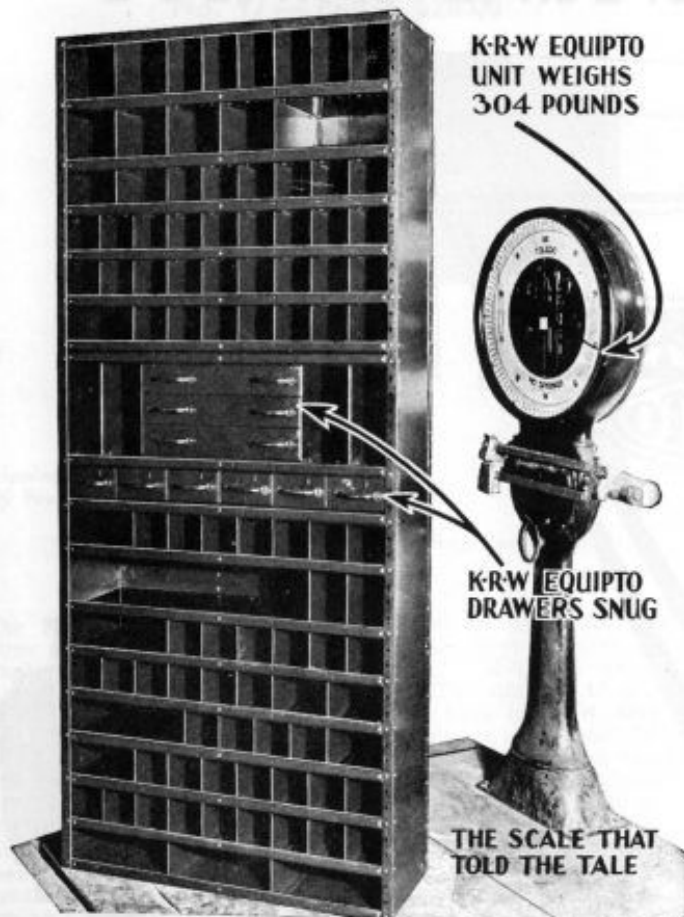
ern equipment. "Clean House" NOW and bring your Parts Department up-to-date!

We supply complete Ford Parts Systems for "A," "AA," "T" and Lincoln. Considering the large stock of parts which Dealers must carry, these systems are absolutely necessary for economy and efficiency.

Study the next three pages carefully. Compare the construction, as to weight of steel, rigidity, etc., with similar equipment made by competitors. Then compare our prices with all others and you will be convinced that K R W-Equipto is by far your best buy.

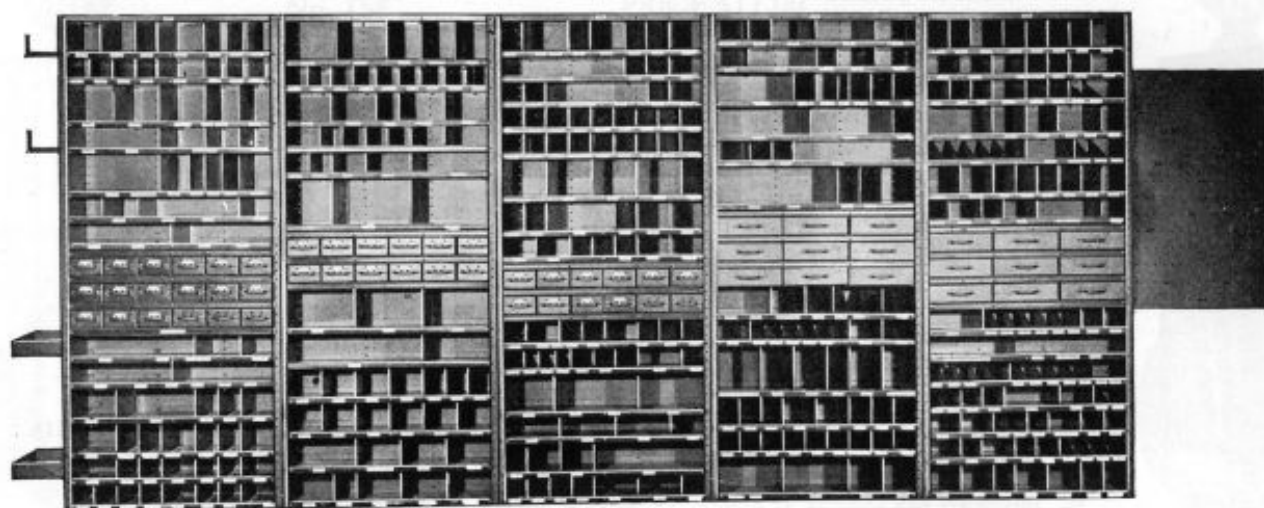


WHAT 78 EXTRA POUNDS OF STEEL MEAN IN ONE BIN UNIT



COMPARE EVERY DETAIL OF K R W-EQUIPTO BINS WITH OTHER MAKES

K R W-EQUIPTO STEEL PARTS BINS



FOR MODEL "A" PARTS

5 Unit System—\$ 3,000.00 Stock (Illustrated)	\$166.00
8 Unit System—6,000.00 Stock	227.00
11 Unit System—8,000.00 Stock	274.00
17 Unit System—12,000.00 Stock	402.00
24 Unit System—16,000.00 Stock	560.00

Shipped direct from Factory—Aurora, Ill.

K R W-Equipto design and construction is far superior to any other competitor. 1/3d to 1/2 more steel is used. Greater care is taken—making the parts and assembling the units. They are well crated to reach you in perfect condition. COMPARE a K R W-Equipto unit with any other, you will agree they are worth fifty per cent more altho they actually cost less—because K R W has cut out the selling costs.

SEE COMPLETE STEEL FURNITURE CATALOG.

K R W-EQUIPTO STEEL BIN DIVIDERS, DRAWERS AND SHELVES

to rebuild

Lyon — Lupton — K R W-Equipto Systems

SPECIFY FOR LYON OR LUPTON



36 x 12-inch Shelf	\$.75
4 1/2 x 12-inch Divider	.10
4 1/2 x 12-inch Divider Sloping	.10
6 x 12-inch Divider	.12
6 x 12-inch Divider Sloping	.12
7 1/2 x 12-inch Divider	.14
9 x 12-inch Divider	.16
10 1/2 x 12-inch Divider	.18
12 x 12-inch Divider	.20
5 1/2 x 3 x 11 1/4 Drawer, 3 Separate	.57
11 x 3 x 11 1/4 Drawer, 16 Openings	1.20
36-inch Label Holder Strips	.07

Price includes Speedy clips with each divider.

Shipped direct from Factory—Aurora, Ill.

HOW TO SAVE MONEY

If you have a Lyon, Lupton or K R W-Equipto steel bin system which has become obsolete with the passing of the Model T or you have outgrown and wish to increase the capacity of your present layout—you can quickly bring it up-to-the-minute by rebuilding it with K R W-Equipto parts. It's easy, no experience necessary. First decide on the size Model A system you want, then we will furnish you the very latest revised drawings at 20c each per unit. After you receive the drawings, count the various sizes of drawers and dividers in your present system, that can be used—then order the extra drawers and dividers you will need to complete your system. K R W-Equipto dividers are our regular stock made from 20 gauge steel, (several gauges heavier than any competitor). All fronts are finished, no raw edges to cut and injure workmen and stockkeepers hands when reaching for parts.

21 1/2 x 10 1/2 DRAWINGS

20c EACH PER UNIT

<p>LYON—UNIT B</p> <p>A-8000</p> <p>A-8001</p> <p>A-8002</p> <p>A-8003</p> <p>A-8004</p> <p>A-8005</p> <p>A-8006</p> <p>A-8007</p> <p>A-8008</p> <p>A-8009</p> <p>A-8010</p> <p>A-8011</p> <p>A-8012</p> <p>A-8013</p> <p>A-8014</p> <p>A-8015</p> <p>A-8016</p> <p>A-8017</p> <p>A-8018</p> <p>A-8019</p> <p>A-8020</p> <p>A-8021</p> <p>A-8022</p> <p>A-8023</p> <p>A-8024</p> <p>A-8025</p> <p>A-8026</p> <p>A-8027</p> <p>A-8028</p> <p>A-8029</p> <p>A-8030</p> <p>A-8031</p> <p>A-8032</p> <p>A-8033</p> <p>A-8034</p> <p>A-8035</p> <p>A-8036</p> <p>A-8037</p> <p>A-8038</p> <p>A-8039</p> <p>A-8040</p> <p>A-8041</p> <p>A-8042</p> <p>A-8043</p> <p>A-8044</p> <p>A-8045</p> <p>A-8046</p> <p>A-8047</p> <p>A-8048</p> <p>A-8049</p> <p>A-8050</p> <p>A-8051</p> <p>A-8052</p> <p>A-8053</p> <p>A-8054</p> <p>A-8055</p> <p>A-8056</p> <p>A-8057</p> <p>A-8058</p> <p>A-8059</p> <p>A-8060</p> <p>A-8061</p> <p>A-8062</p> <p>A-8063</p> <p>A-8064</p> <p>A-8065</p> <p>A-8066</p> <p>A-8067</p> <p>A-8068</p> <p>A-8069</p> 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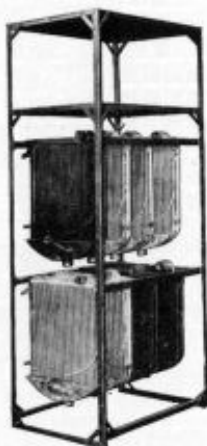
ESSENTIAL UNITS AT K R W SENSIBLE PRICES



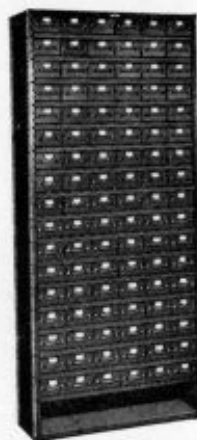
No. 294 — \$21.50 — Glass Rack, 36" wide, 7 ft. high, 24" deep. Wood strips prevent glass touching steel.



No. 404 — \$15.00 — Steel Spring rack. 7' high.



No. 494 — \$10.50 Ford Radiator Rack 2 ft. wide, 7 feet, high, 3 ft. deep.



No. 426 — \$77.00 Individual Storage Units 102 Drawers, 5 7/8" x 3" x 11 1/8", 7' high.



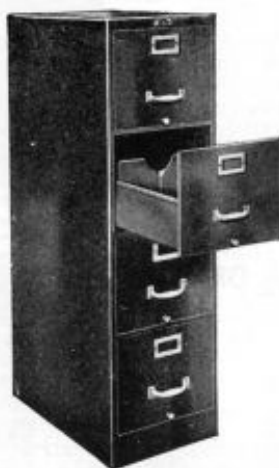
No. 97A — \$8.75 Seven skeleton type shelves. 12" openings Capacity each shelf 150 lbs. No. 97B — \$11.50 — Capacity each shelf 450 lbs. 7' high. 3' wide.



No. 134 — \$8.00 End Display Unit. Skeleton type. Seven openings 12" high, 24" wide, 12" deep, 7' high.



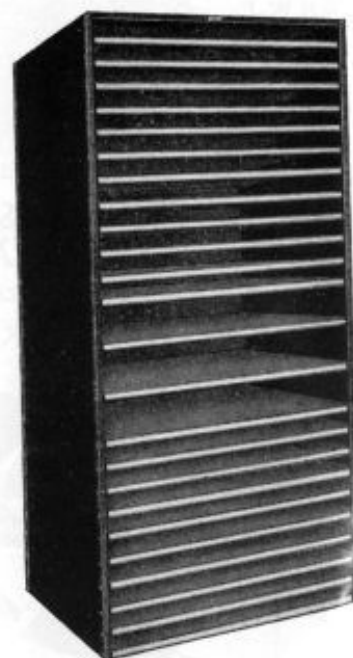
No. 476 — \$17.50 — Ventilated Steel Lockers. One section of three lockers, 12" x 12" x 60". No. 477 — \$20.50 — One section of three lockers, 12" x 15" x 72".



No. 351 — 4 drawer letter file — \$23.00. K R W Equipto No. 351253, same as No. 351, but with 3 letter file drawers and 2 card file drawers, \$28.00.



K R W Equipto No. 497 Service Foreman's Desk, 36" wide, 44" high at front, 28" deep. Price \$24.00.

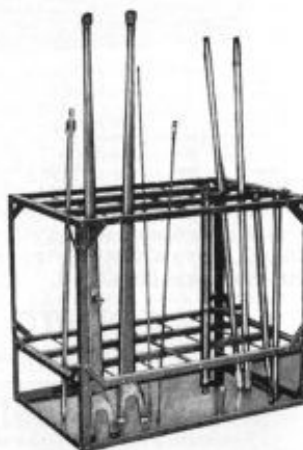


For floor mats, side curtains, etc., with 21 openings 3" high, 3 openings 6" high. Total height 7'.

No. 116 — 36" wide x 24 1/2" deep. \$48 K. D. — \$53 set up.
No. 116 — 36" wide x 36" deep. \$76 K. D. — \$85 set up.
No. 116 — 36" wide x 49" deep. \$99 K. D. — \$109 set up.



K R W Equipto No. 560 Tool Toter. Width 18", depth 24", height 34". Price \$9.90 with steel casters. Price \$11.25 with rubber tired casters.



K R W Equipto Long Parts Rack No. 495. 36" long, 24" wide, 32" high. Price \$13.00.



No. 1108 — \$28.00 — Steel Supply Cabinet. 34" wide, 18" deep, 78" high. See page 36. No. 1208 same as 1108 but with one shelf and rod for use as wardrobe. Price \$26.50.

We have reduced prices on all Bin Systems, and many other items. Note carefully superior construction as shown on preceding page.

See pages 18 to 24 inclusive in K R Wilson Equipto Catalog No. 111. Revised Price List is attached to cover.

K R W AIR TOWERS

No. 158

PRICE \$11.00 Including Automatic
Hose Connector

THE K R W Air Tower has been designed to supply the demand for a low priced outfit. It has many advantages. The 2½-inch pipe column serves as a 1½ gallon reservoir for air. The hose is quick detachable so it can be taken in at night. The connector combines a check valve and quick detachable coupling, operating in a similar manner to an automobile lamp bulb. A quarter turn and the hose is attached or detached. No air is wasted. The valve is automatic. The price is so low every station can afford several—located at strategic points. The price quoted is for tower and check valve only. Add \$3.50 for 25 feet of hose with chuck (as shown at right) or \$17.50 for 25 feet hose and Marchus Tire Gauge (as shown at left). Height 70½ inches. Shipping weight, crated, 80 pounds.



MARCHUS TIRE GAUGE

No. 172 PRICE \$15.00

The Marchus Tire Gauge has proven so accurate and reliable that during the past few months almost every maker of Air Towers and dispensers has adapted it as part of their standard equipment. It is guaranteed to have Master Gauge Accuracy and is rigidly constructed to withstand abuse. The entire gauge is rubber covered and sealed in, therefore is not subject to damage from the elements or careless handling. Every Marchus Tire Gauge is guaranteed unconditionally for one year to remain accurate and against defective material and workmanship. Our price is lower.

Shipping Weight 3 Lbs.



"AMERICAN" AIR TOWERS AND SERVICE REELS

No. 173—with Light Fixture, at left \$77.00
No. 174—without Light Fixture, at right 73.00

Shipped Direct from Factory, Cincinnati, Ohio
Shipping Weight 210 Pounds

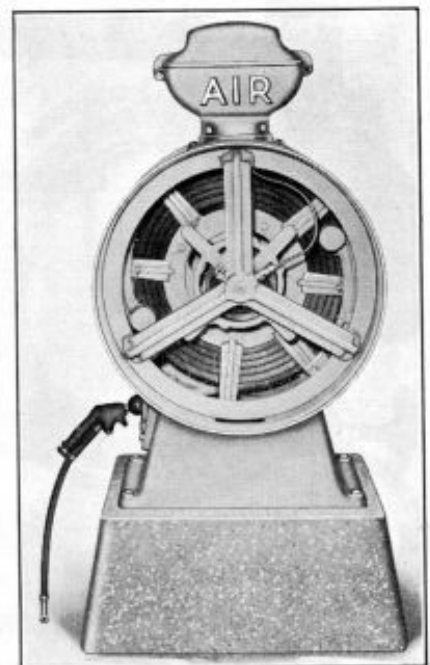
The American Air Reel is a new, distinctive and practical device for dispensing air. When placed where it is convenient for motorists, will prove a big business builder. It is so handy and convenient, the motorist will "help himself", thereby releasing the station attendant for the profitable trade of selling gas, oil, lubrication, etc. Motorists always prefer to patronize service stations who have reliable air service and accurate gauges. The reel cabinet is made of heavy steel stampings supported on a cast iron framework. The sides are easily removable for inspection. All mechanism is strongly constructed. The Marchus Tire Gauge supplied with this outfit is the same as above described—at night it can be locked in the cabinet on top of the reel. Some dealers prefer electric lighted stands to compel attention of motorists and light up the area where this service is located. The cost is only \$4.00 more than the plain stands. Ford Dealers who realize the value of this indirect advertising, are buying them. K R W prices save you plenty.

CEILING REEL

No. 175 PRICE \$43.00

With Marchus Gauge \$54

We recommend the ceiling reel for inside installations. It costs less and can be located where most convenient, without taking up valuable floor space. The mechanism is practically the same as the outdoor models. It keeps the hose and gauge off the floor—in good condition and free from leaks, this saves your tire compressor and reduces power bills. Indirectly these reels pay for themselves.



The reel re-winds by spring action, controlled by a centrifugal governor which prevents re-winding too rapidly. When the hose is pulled out, the heavy spring is pulled tighter and promptly re-winds the hose when it is released. The hose is evenly wound on the reel hub in true coils, without pinching or kinking. Four guide rollers prevent wear and chafing of the hose and aid in the smooth operation of the reel. The life of the hose is greatly increased.

K R W TOOLS FOR REPAIRING AND TESTING HOUDAILLE SHOCK ABSORBERS

SHIPPING WEIGHT 60 POUNDS

★ No. A386

PRICE \$24.50

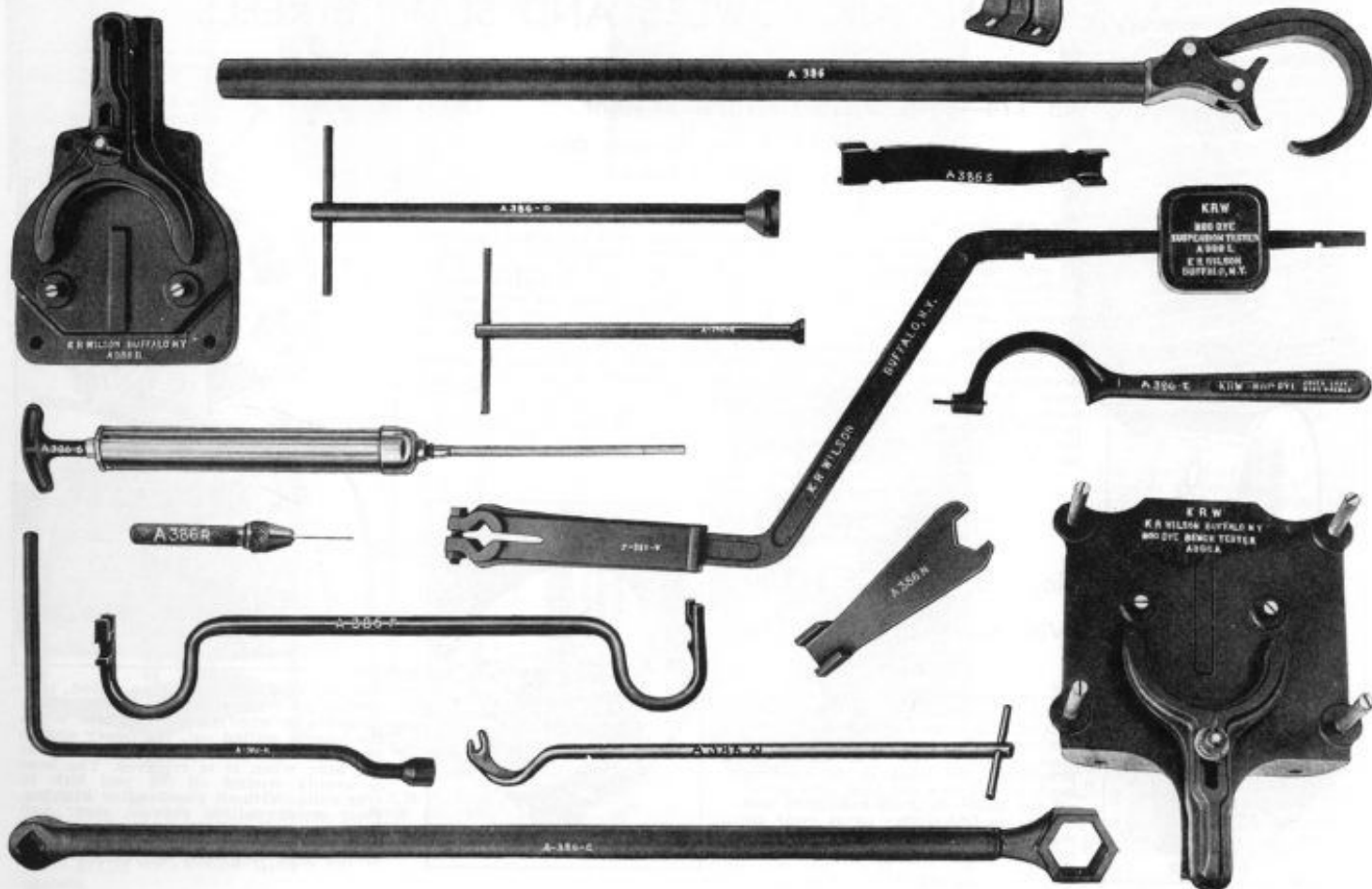
WITH the cooperation of Ford and Houdaille factory engineers we have perfected a complete set of tools which will enable any mechanic to test and repair Houdaille Shock Absorbers.

Thousands of car owners are not getting the comfort and easy riding qualities which was originally built into their cars, because the dealers have little knowledge and no suitable equipment for testing and adjusting shock absorbers—to suit individual requirements and climatic conditions. But now, with a complete outfit available at such a low price, there is no further excuse necessary. Every car owner will be glad to pay a reasonable price to have his "shocks" tested, repaired or refilled if necessary and so adjusted that he may obtain and enjoy the wonderful results "perfectly adjusted" shock absorbers will impart to his car. In the group below you will find every tool necessary to perform the various operations shown here and on the opposite page. All tools are well made. Wrenches are drop forged from Alloy steel and heat treated and then plated. All castings are Semi-steel, accurately machined in jigs to close limits. With reasonable care this set should last for years. **GO AFTER THIS BUSINESS** and bring back those LOST customers who have strayed away from your shop to other service stations. Sell them on the Idea that only an Authorized Ford Dealer can give the maximum in service at the minimum cost.

FULL DIRECTIONS FOR TESTING AND REPAIRING ARE GIVEN IN THE FEBRUARY FORD SERVICE BULLETIN.



This shows our regular No. 106 Mechanic's Bench fitted up to repair and test Houdaille Shock Absorbers. Price of Bench only \$11.00



K R W SHOCK ABSORBER TESTING MACHINE

No. A387
PRICE \$35.00

F. O. B. Factory—Arcade, N. Y.

The K R W Shock Absorber Tester enables the operator to quickly test and adjust them as accurately as they left the factory. We recommend testing each shock absorber on the car with the lever and weight. If it cannot be adjusted quickly, it should be removed and overhauled, using the equipment illustrated on the opposite page. Then make adjustments and test the instrument on this machine before replacing on the car. It is so convenient and the tests can be made so easily that a shock absorber in good working order can be adjusted and tested in less than one minute. The foot lever raises the weight to the position shown, with shock absorber arm in "up" position, a lever is pressed and the TIMER indicates the number of seconds required to complete the stroke. If further adjustments are necessary the operation is repeated. The dial is also calibrated in RED figures to show the correct adjustments at normal temperatures. A chart is included with each machine to show corrections to be made according to variation in temperature. (If this machine is not used the test is made with the shock absorber mounted on the special bench fixture shown on opposite page, using the lever and weight for a test.) The head is swiveled to handle both right and left hand instruments. This new machine is as simple as it looks, nothing to get out of adjustment or cause trouble. It will save you time and money—and convince your customers beyond a doubt that you are properly equipped to handle this much needed service.



Shipping Weight 180 Pounds Crated

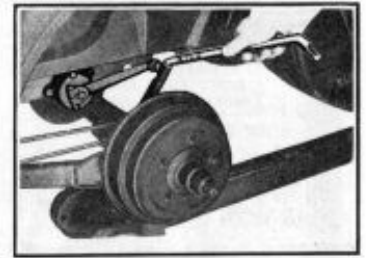
DRAG LINK ASSEMBLY TOOL

No. A360

PRICE \$1.25

Shipping Weight 2 Pounds

The K R W Drag Link Assembly Tool will save fussing and loss of time, removing or assembling drag links while testing or repairing shock absorbers. The picture shows a drag link being pulled off the ball of the shock absorber arm. The other end of the tool is milled flat to push the ball seat and spring down far enough to allow the ball to enter thru the side of the drag link. The tool is a drop forging, heat treated to stand rough usage. Much valuable time is lost and considerable damage done trying to get along without proper equipment. Make the job pay.



TIMER FOR HOUDAILLE ADJUSTMENTS

No. A405

PRICE \$5.00



You want results: This timer will help you get them. A few seconds difference in the movement of the test arm makes a whale of a difference in the riding qualities of the car. Satisfactory results can be obtained only by having each pair of shock absorbers synchronized exactly alike. This timer registers 60 seconds for one full turn of the large hand. It is also provided with start and stop lever which gives the operator accurate control and enables him to check and recheck while making adjustments to obtain those "perfect results." Shipping Weight 3 Pounds

This Timer is not required when Testing Machine is used

K R W ELECTRIC POLISHER

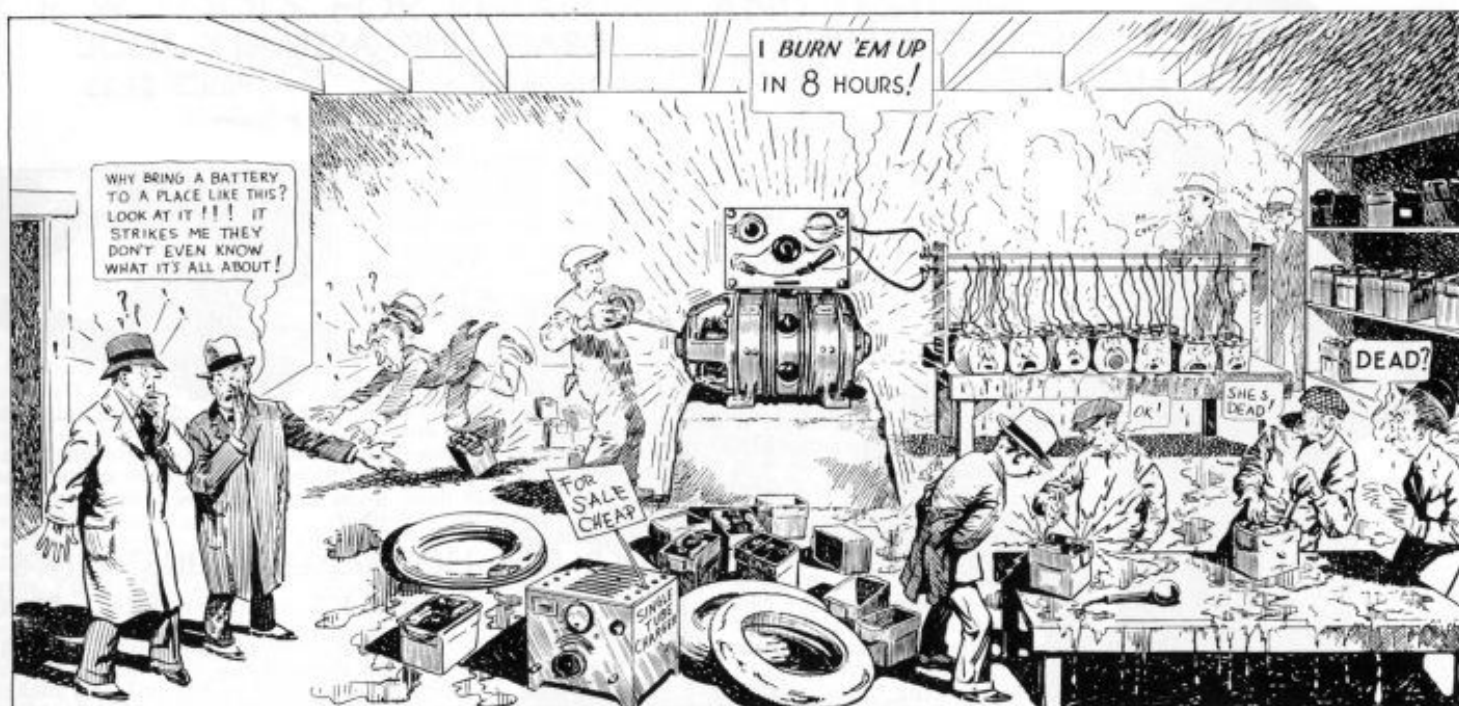
The K R W Electric Polisher is equal or superior to any other make of similar design—yet we sell it for considerably less than half the usual price. Universal motor (same as electric drill) 110 volt. Full ball bearing equipped. Carries 7 inch Sheepwool pad. Can be used for all polishing and buffing operations. It is compact and convenient to handle. Polish the new cars and clean up the old ones for greater profits.



No. 165
PRICE
\$28.00

A 1/4-inch chuck can be supplied at additional cost of \$7.50 to convert this into a good quarter-inch electric drill.

Shipping Weight 4 Pounds



What do they say about YOUR Battery Department?

THERE'S no excuse for having "dumps" like this. Yet thousands of Dealers have overlooked this branch of their business, which is second only to lubrication for profits and good-will. In too many instances dealers have set up their battery departments in dark, out-of-the-way corners. Dirty shops and slip shod methods have destroyed customer confidence—causing them to go elsewhere. Mr. Ford Dealer: Get your share of this replacement battery business. Approximately eight million are sold to Ford owners annually. Move your battery department out in front where it will attract attention and become its own best advertisement. The K R W Equipment shown on the following pages is

designed to carry out the Ford standards of efficiency and cleanliness. Compare the picture at the bottom of this page, which shows a modern battery department, with the cartoon above. The pictures speak for themselves. K R W Equipment is perfectly safe for day and night charging, requires no attention. It is fast—charges healthy batteries in 10½ hours without overheating. Many new improvements have been added—simplified control, line voltage equalizer and now guaranteed for 10 years. No other battery charger, regardless of price, style or design equals it for efficiency and low operating costs. Every dealer should investigate the savings which can be effected by installing this equipment.

THE K R W EQUIPPED SHOP INSPIRES CUSTOMER CONFIDENCE



K R W "ONE DAY BATTERY CHARGER

THE New K R W "One Day" Battery Charger has a daily capacity of 15 Six Volt batteries every 10½ to 12 hours—25 to 30 every 24 hours. Many new improvements have recently been added to make it the simplest and most efficient battery charger on the market regardless of price. Simply turn the switch on the right to correspond with the number of batteries on the line, then turn the single current control knob to the right to secure any charging rate from 2 to 12 amperes. Any ordinary mechanic can operate it satisfactorily. This new 15 battery model is protected against the possibility of fuse or bulb trouble by a built-in Line Voltage Equalizer, an ingenious arrangement of a condenser in the circuit which smooths out the effects of line voltage variations, caused by overloaded and undervoltage lines, often encountered in rural districts. This charger is automatic and absolutely safe for day and night operation. It is the first of only four UNDERWRITERS APPROVED machines, out of forty different makes. Remember insurance rates go up unless you use approved equipment. It has been built to a high standard of quality rather than cheapened to meet price competition. The transformers are extra large and wound with large wire to increase their efficiency and decrease electric current costs. Official tests show the K R W Charger is 84 to 86 per cent efficient on full load and better than 50 per cent with only three batteries. Compared with constant potential which is usually less than 50 per cent under full load and requires the constant attention of an experienced operator to prevent overcharging and ruining the batteries. The savings in electric current costs alone, over C. P. Systems, will pay for the K R W Outfit in a few months, to say nothing of the additional savings on labor and damage done to batteries.

10 YEAR GUARANTEE

The K R W Charger is guaranteed for a life of 10 years. By this plan, regardless of its condition through normal use, it will be reconditioned like new for 10% of its original cost for every year of service it has had. Bulbs are guaranteed and adjusted on a basis of 800 hours. This plan also applies to every K R W Charger now in use. Customer pays all transportation charges.

K R W "ONE DAY" 15 BATTERY CHARGER



No. 45
PRICE \$86.00

Complete with 2 Bulbs, extra Fuses, 14 Shuro Connectors	
110 or 220 Volt, 60 Cycle	\$ 86.00
110 or 220 Volt, 50 Cycle	93.00
110 or 220 Volt, 25-40 Cycle	105.00

Shipped direct from Factory, Bloomfield, N. J.
Shipping Weight 125 Pounds.

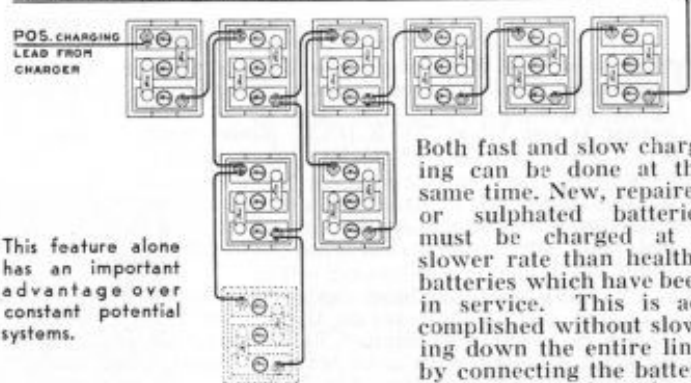
COST OF OPERATION

With current costing 10c per K.W.H., a full line of fifteen batteries can be recharged at an average of 9½ cents each; with lower current rates your cost is proportionately less.

CONSULT YOUR POWER COMPANY

The K R W 15 Battery Charger requires 1850 watts when operated under full load. It should be used on power circuits whenever possible—to obtain lowest rates. Although not necessary if Power Company will permit you to draw that amount of current from a single phase (lighting circuit) line. BE SURE TO SPECIFY CYCLE AND VOLTAGE REQUIRED.

NEG. CHARGING LEAD FROM CHARGER



Both fast and slow charging can be done at the same time. New, repaired or sulphated batteries must be charged at a slower rate than healthy batteries which have been in service. This is accomplished without slowing down the entire line, by connecting the batteries requiring slow charging, as shown in cut. Each additional connection cuts the charging rate in half. Nearly all battery manufacturers now attach tags to their new batteries bearing the following information: "Do Not use Constant Potential for initial charging". More batteries are ruined from overcharging with C.P. Systems than all other causes combined.

K R W "ONE DAY" 8 BATTERY CHARGER



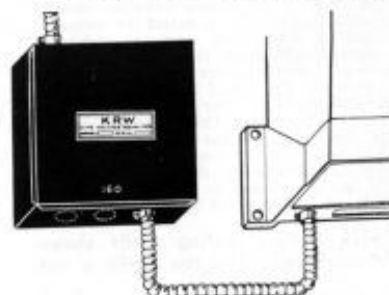
No. 176
PRICE \$61.00

110 Volt 60 Cycle	(220 Volt \$68.00)	\$61.00
110 Volt 50 Cycle	(220 Volt \$68.00)	\$61.00
110 Volt 25-40 Cycle	(220 Volt \$80.00)	\$68.00

Shipped direct from Factory, Bloomfield, N. J.

The K R W 8 Battery, Full Wave Charger is similar in design and construction to the fifteen battery size, except smaller. Two bulbs give the same fast charging rate. It also has all the other characteristics which have made K R W "One Day" chargers so popular. It has been made for the dealer whose business may never reach a large volume. This charger does not require the line voltage equalizer, so none is included. The outfit is complete with 2 bulbs, fuses and 7 Shuro connectors. Shipping Weight 75 Lbs.

K R W LINE VOLTAGE EQUALIZER



No. 160
PRICE \$7.00

The K R W Voltage Equalizer for use with old style chargers, will effectually smooth out voltage variations and prevent sudden surges of current which often blows out fuses and bulbs due to poor electrical service.

K R W "ONE DAY" BATTERY CHARGING AND TESTING OUTFIT

CAPACITY 30 BATTERIES EVERY 24 HOURS

\$160.00 COMPLETE AS SHOWN

THE New K R W Combination Battery Charger and Testing Outfit may be called De Luxe Equipment. It combines everything necessary for charging and testing batteries. It is compact and convenient. The Charger is our latest "ONE DAY" Model with a capacity of 15 batteries every 10½ hours, or 30 batteries when operated overnight.

The K R W High Rate Discharge Set is mounted conveniently for testing defective batteries before and after charging. It may be instantly removed for portable use in the car. The new type Charging Panels combined with the "Shuro, Drive in Connectors" further increases its all around efficiency.

The Charging Rack has been designed to accommodate 16 batteries on the top section and 14 batteries on the storage rack. All Rails are sheet lead covered to resist corrosion. The battery testing Platform is made of hardwood, painted with acid resisting paint, then rubber covered. It is supported on two semi-steel brackets.

The Outfit can be purchased complete as shown for the Special Lot Price of \$160.00 (60-cycle, 110 or 220 volt.) F.O.B. our factory. Or any part can be purchased separately. The Eight-Battery Charger can be substituted. Therefore, it is possible to buy the simplest and most efficient Battery Charger and Rack for as little as \$85.00, and if a larger and more elaborate outfit is wanted, the 15 Battery Charger, Charging Panels and High Rate Test Set can be ordered.

PRICES

K R W "One Day" 15-Battery Charger (60-cycle—110 or 220 volt).....	\$86.00
K R W "One Day" 8-Battery Charger (60-cycle—110 or 220 volt).....	61.00
K R W Charging Rack.....	24.00
K R W Charging Panels....	20.00
K R W High Rate Tester....	32.00
K R W Battery Test Bracket	2.50

SEE PAGE 83

K R W BATTERY DEMONSTRATOR

"Show Your Customer the Facts"

No. 144 PRICE \$80.00

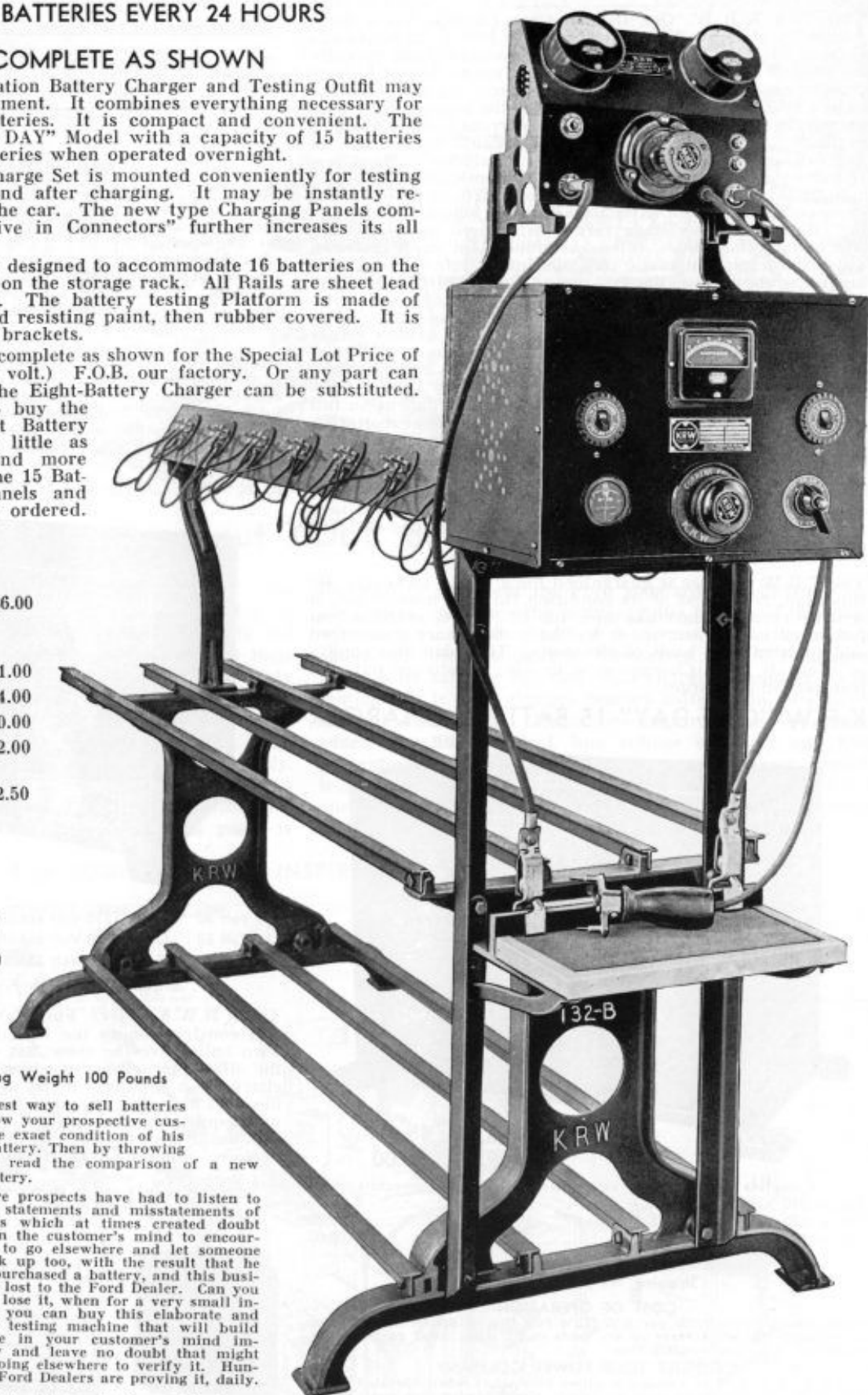


Shipping Weight 100 Pounds

The easiest way to sell batteries is to show your prospective customer the exact condition of his faulty battery. Then by throwing a switch read the comparison of a new Ford Battery.

Heretofore prospects have had to listen to a lot of statements and misstatements of mechanics which at times created doubt enough in the customer's mind to encourage him to go elsewhere and let someone else check up too, with the result that he usually purchased a battery, and this business was lost to the Ford Dealer. Can you afford to lose it, when for a very small investment you can buy this elaborate and imposing testing machine that will build confidence in your customer's mind immediately and leave no doubt that might suggest going elsewhere to verify it. Hundreds of Ford Dealers are proving it, daily.

If complete battery testing outfit shown above is purchased, then this outfit is not necessary.



Battery Charger, Tester and Panels
Shipped from Bloomfield, N. J. Charging
Rack Shipped from Arcade, N. Y.

K R W COMBINATION HIGH RATE BATTERY TESTER STARTER AND GENERATOR TESTER

With the Patented Test Meter

No. 159

PRICE \$32.00

HERE is a real tester using 3½ inch D'Arsonnal moving coil meters (accuracy guaranteed within 2%), a new, extra husky carbon pile, large clips and leads and has meters marked with the Heyer System of scale marking. This system removes all guess work from testing. The customer can be shown instantly just what the condition of each cell of the battery actually is. Since the difference in voltage between a full and one-half capacity is only 2/10 volt (see scales below) it is absolutely necessary to have a long meter scale and an accurate meter so as to show this difference to the customer.

ADDITIONAL FEATURES OF K R W BATTERY TESTER

1. Starter Tests

The accurate ammeter can also be used for starter tests as the heavy leads can be plugged into the 300 amp. shunt (built in the tester) and the starter draw instantly read on the meter.

2. Generator Tests

Because precision instruments are used on the tester, generators can be carefully checked and adjusted and the car ammeter checked at the same time. The 30 ampere scale of the ammeter is used for this purpose and two terminals are provided on the tester for connections to the generator.

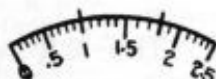
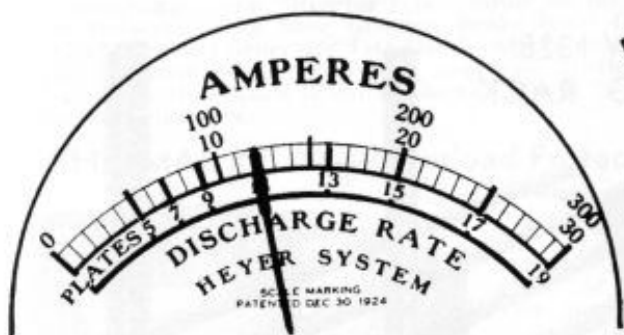
3. Battery "Full Charge" Test

It has always been known that a voltmeter carefully calibrated at 2.5 volts is the best and quickest method of testing a battery when it has reached full charge. Because of the extreme accuracy of the voltmeter on the K R W Tester, it can be used for this purpose. It is only necessary to put the test prod on the battery cell while charging and the pointer will indicate instantly if the battery is fully charged. See meter scale below.

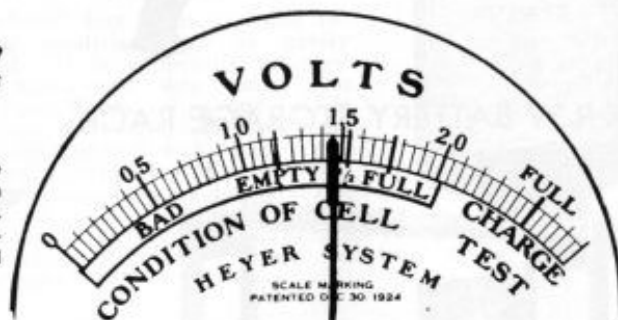
ALL OF THESE FEATURES ARE FOUND IN THE NEW K R W BATTERY TESTER



COMPARE THE ACTUAL SIZE OF THE METER SCALE USED ON THE K R W TESTER WITH THAT USED ON THE LOW PRICED 4 METER TESTERS. REMEMBER—A BATTERY TESTER IS ONLY AS GOOD AS ITS METERS.



Actual size of the Meter Scale used on low priced testers. Too small — and inaccurate for real testing.



"THE DIAGNOSIS"

Don't guess — test every battery.

FIRST—Connect large clips to battery and tighten up on current control handle until the pointer reaches the number on the ammeter scale corresponding to the plates in the battery being tested. (Such as 11-13-15 plates, etc.)

SECOND—Put prod across each cell and pointer of the voltmeter will indicate condition of the cell.

THIRD—Show the customer the condition of each cell as shown on the patented meters. Let him see for himself and he will quickly O.K. your suggestion for a recharge, repairs or replacement, as the case may be.



Adjusting Tester for size of battery under test.



Checking each cell for internal condition.

K R W "ALL - STEEL" BATTERY CHARGING RACK

THE K R W "All-Steel" Battery Charging Rack has been built in large quantities for the past two years. It has a capacity of 42 batteries. T Rails both top and bottom are sheet lead covered (as illustrated at bottom of page) to resist corrosion, etc. They are then painted with black, acid resisting insulating paint. This type of charging rack or the smaller one illustrated below will do much to improve any battery room. Either rack can be furnished to fit the new or old style K R W Charger or the larger rack can be fitted with 3 Special Brackets and insulators to hold "bus bars" of constant potential machines (not illustrated). The rails are 8 feet 3 inches long. Floor dimensions required for this outfit 7 feet 9 inches long by 28 inches wide in addition to size of charger. It is shipped knocked down and crated to save freight charges.



PRICE

\$27.50

No. 132

Shipped Knocked Down
Shipping Weight About 225 Pounds

THE K R W 132B CHARGING RACK



No. 132B

PRICE

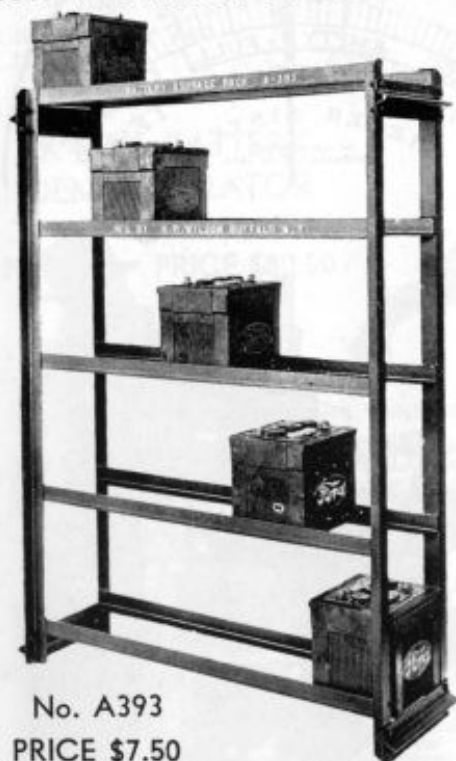
\$24.00

The K R W 132B Charging Rack is identical in construction except slightly smaller. It has plenty of capacity for 30 batteries daily. We recommend this rack for all K R W Chargers as illustrated on pages 83 and 85. Top rails are 67 inches long. Floor space required is 28 by 86 inches.

This cut shows a full-size cross section of the sheet lead covered steel rails used on both K R W Charging Racks. It prevents acid corrosion.



K R W BATTERY STORAGE RACK



No. A393

PRICE \$7.50

The K R W Battery Storage Rack is intended primarily for storage of New Batteries in the stock room. But can be used for storage of recharged and rental batteries. All-steel electric arc welded construction, capacity 25 Ford batteries. The price is low. How many can you use? Shipping weight 65 lbs.

ELECTRIC MOTORS

POLYPHASE

Is a 2 or 3 phase motor made to operate on power circuits only. The K R W 2 H.P. "Big Boy" and the K R W 5 H.P. "High Pressure" Compressors are regularly equipped with 3 phase motors unless otherwise specified. In many instances we have found compressors badly overloaded and in some cases operating on low voltage and overloaded power lines. Under such conditions the motor is liable to burn out unless protected with an overload circuit breaker. All compressors of this type shipped since June first are factory equipped with these protective devices. We therefore urge every Dealer using a compressor equipped with a 2 or 3 phase motor to install a Thermal Relay at once. We will not be responsible if you burn out a motor due to conditions beyond our control. A tie up and loss of profits may be avoided if you do it NOW.

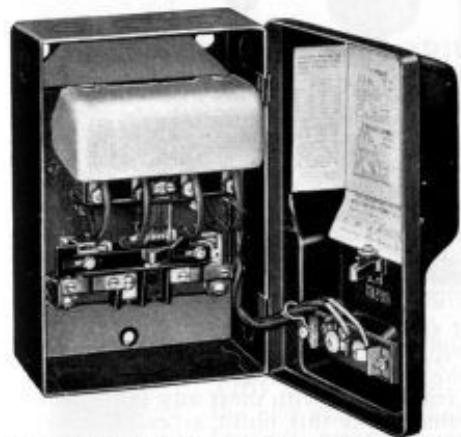
REPULSION — INDUCTION

Are built for heavy duty service, to operate on single phase circuits. (Lighting lines). They can also be connected with two wires of a 2 or 3 phase power line. We supply this type of motor on the K R W Combination Machine, K R W Car Washer and Little Boy Compressor—unless otherwise specified. In most localities motors of this type are limited to 1 H.P. but in rural districts where, as a rule, only single phase electric service is available, the power companies sometimes permit the use of larger sizes up to 10 H.P. Motors of this type will stand a large, temporary overload for a short time but should be protected against under-voltage and overloading by means of an overload relay as shown below—to protect them against burning out.

SPLIT PHASE

Are now obsolete. Power companies in many large cities no longer permit their installation. In place of them, we are now supplying a new "Reactor type" motor on the K R W Valve Refacer, Brake Shoe Grinder, Brake Band Drill and Countersinker and Generator Test Stand—which meets all new power requirements and has been approved by the Power Association. Our Bench Grinders shown on page 70 have the same characteristics.

THERMAL RELAY—Overload Protection



Due to lack of space we are unable to show the various types of overload and undervoltage circuit breakers. We suggest you send us a list of the motors for which you desire this protection, and we will quote you lowest prices. Be sure to give full details — Horse power, phase, cycle and voltage and the purpose for which each motor is used. Prices

range from \$2.75 to \$14.00 depending on the type required. Insure against breakdowns before it is too late.

IMPORTANT

The K R W Organization wants every Ford Dealer to get satisfactory results and uninterrupted service with K R W equipment. It is, therefore, very important that we have the correct electrical specifications. BE SURE to consult your Electric Light and Power Company before ordering motor driven machines or battery chargers. Get the CORRECT cycle, phase and voltage of power and lighting circuits.

Orders are filled in accordance with instructions given us by the purchaser. If specifications are incorrect, any additional expense incurred must be assumed by the purchaser.

"EXTRAS" For Odd Frequency Motors

Add \$5.00 extra for 25-30-40 cycle or Direct Current ¼ H.P. Motor, used on Valve Refacing Machine, Brake Shoe Grinder, Brake Band Drill and Countersinker and Generator Test Stands, as shown on pages 26, 68, 69 and 88.

Add \$10.00 extra for 40 or 50 cycle and Direct Current. Add \$17.00 extra for 25 or 30 cycle on the K R W Car Washer, shown on page 64.

Add \$5.00 extra for 50 cycle, Direct Current or 440 volt, ¼ H.P. Leland Motor used on K R W Combination Machine, shown on page 10.

Add \$6.00 extra for 40 or 50 cycle, or Direct Current, ½ H.P. ball bearing motor used on K R W Polisher and Buffing Machine, shown on page 93.

We reserve the right to equip our machines with any standard make of Motor which is found suitable for the work. By so doing we can give you the benefit of the latest improvements at all times.

WRITE FOR PRICES

on odd frequency and special voltage motors not listed above.

K R W PAINTS

"SILVERKOTE" ALUMINUM PAINT

A Metallic Coating

No. 119 PRICE \$2.75 Per Gal.

In 5-Gallon Cans Only

Shipped From Factory at Pittsburgh

"Silverkote" has unusual light reflecting qualities and is easily cleaned. It is especially adapted for ceilings and side walls, also show room floors. Only one coat is necessary for complete coverage. One gallon covers 400 square feet. It is easily applied with your present spray gun, or even brushed on, and dries hard in a few hours. Hundreds of Dealers are sending us repeat orders for this wonderful paint. Cut your painting costs by using "Silverkote."



No. 118—Machinery Blue

No. 120—Tractor Gray

PRICE \$1.75 Per Gallon

In Cases of Six One-Gallon Cans
F.O.B. Factory at Pittsburgh, Pa.



Keep your machinery, tools and benches well painted, to help put over the idea of cleanliness in your shop. The machinery Blue is a high grade oil-proof paint made to match that with which all K R W tools and equipment are painted. The Tractor Gray will match that with which Fordson tractors were painted. Use it liberally in stockrooms, walls, ceilings, etc. These paints are made for us by a well known manufacturer and are guaranteed to give satisfaction.

GRAY FLOOR LACQUER

No. 178

PRICE \$3.25 Per Gallon

In 5-Gallon Cans Only—F.O.B. Factory, Pittsburgh, Pa.

K R W Gray Floor Lacquer has proven very satisfactory as evidenced by the thousands of repeat orders received. It is easily applied with a brush or spray gun; dries hard, overnight, ready for use. Retains its high lustre and is easily cleaned. Try it and you will like it.

K R W TEST STAND FOR MODEL "A" AND "T" GENERATORS

No. 42

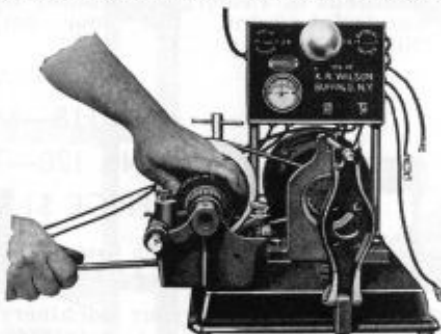
PRICE \$51.00

Shipping Weight Boxed 115 Pounds

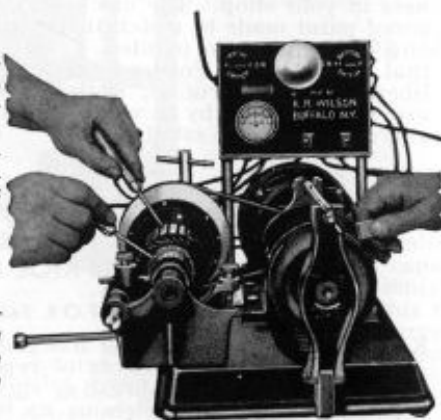


The KRW Generator test stand and Armature lathe, with Mica undercutter has all of the important advantages of other Special Ford Test stands—plus a few exclusive features of our own. Such as—An Armature lathe that will handle both Model A and T Armatures and will also undercut the mica between the commutator bars. It is so designed that it is unnecessary to remove the end plate or bearing on either Model A or T Armatures—this saves two useless operations and the possible damage or breakage of such parts. The picture above shows the machine complete as we ship it. In the following pictures we will show how both A and T Armatures and Generators are handled so that you appreciate some of the outstanding advantages over any other machine made.

This picture shows the method of under-cutting the mica on a Model "T" Generator Armature. The Model "A" is handled in the same way.

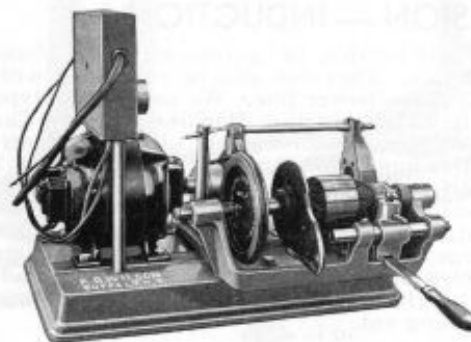
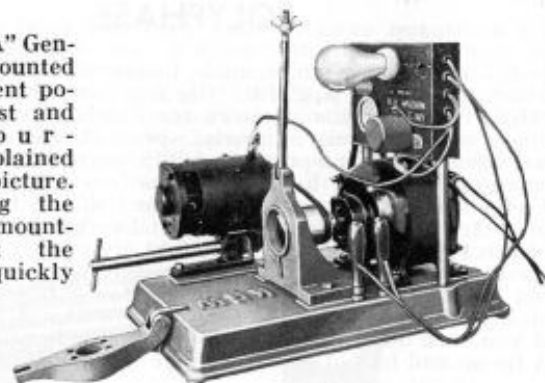


This picture shows two different operations—the use of prods and a test light for checking shorts and grounds and a most convenient position for inspection and adjustment of brushes.



NOTE: For Model "T"—Aluminum Drive pulley clamps direct to the drive gear on the Armature shaft.

The Model "A" Generator is mounted in a convenient position for test and inspection purposes as explained in previous picture. By removing the generator mounting bracket the lathe is quickly attached.



Model "A" Armature in lathe—Commutator being turned and mica undercut. Note: It is unnecessary to remove the end plate or bearings—saves time and damage. A special extension hub pulley adapts the shorter Model "A" Armature to this lathe.

GROUP A4 GENERATOR TOOLS

★ No. A4

PRICE \$21.00

Shipping Weight 27 Pounds



This KRW Group of Generator tools when used in connection with a KRW test stand will enable repairmen to make complete repairs to the latest type Model A Generator. This group can be used in connection with most any other make of Test stand. Every dealer needs this outfit as essential equipment.

A4A Belt	.....	\$ .50
A4B Mounting Bracket	.....	3.00
A4C Pole Expander	.....	3.00
A4D End Plate Replacer	.....	1.00
A4E End Plate Driver	.....	1.00
A4F Pole Piece Screwdriver	.....	1.25
A4G Brush Sander	.....	3.50
A4H Special Generator Pulley	.....	2.50
A4I Ball Bearing Remover	.....	1.50
A4J Dust Ring Puller	.....	1.50
A4K Reaming Fixture for End Plate Bushing	.....	2.00
A4L End Plate Bushing Reamer	.....	2.75
A4M End Plate Bushing Driver	.....	.50

Individual prices when sold separately.

\$24.00

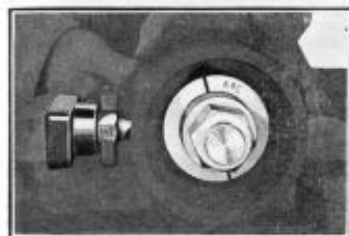
CAN SUPPLY OUTFITS FOR T AND POWER HOUSE TYPES.



K R W BRUSH SANDER

The K R W Brush Sander (No. A4G) for the latest type Model A generator, correctly aligns the brushes for full, parallel contact with the commutator. A recess is machined in the casting so that the brush holder is easily held in place as shown. A perfect brush contact prevents arcing and burning of the commutator. This tool saves time and gets results.

POLE PIECE SCREWDRIVER AND POLE PIECE EXPANDER



The K R W Pole Piece Screwdriver (No. A4F) is shown in use. These screws must be set up tight. The Generator body is laid in a vise with the jaws wide open, the Screwdriver base is placed against one jaw and the vise then adjusted until the Screwdriver enters the slot of the pole piece screw. A Wrench is then placed on the Screwdriver, and it can be broken loose or tightened tight, without any danger of slippage or damage to the screw slot. Carelessness on this operation in not getting these screws tight allows the pole pieces to work loose and wreck the generator. The Pole Piece Expander (No. A4C) should always be used when removing or replacing pole pieces. It prevents squeezing the housing out-of-round and guarantees proper clearance and ventilation between armature and pole pieces. This item is machined all over to insure accuracy. Every dealer needs these tools.

END PLATE DRIVER



The K R W Generator End Plate Driver (No. A4E) is used in connection with Ball Bearing Remover (No. A4I) for driving or pressing the shaft out of the end plate and ball bearing assembly, as shown in picture on the left.

The K R W End Plate Replacer Driver (No. A4D) is used to drive the end plate and ball bearing assembly on to the shaft. Can be used with a copper hammer or in an ar-



bor press. Both tools are absolutely essential for results.

GENERATOR BEARING AND DUST RING PULLER



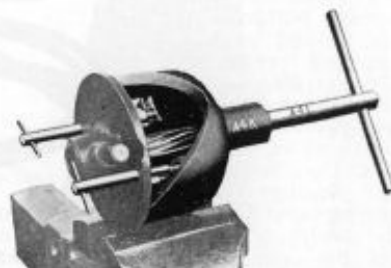
The K R W Dust Ring and Ball Bearing Puller (No. A379) is made from a drop forging, accurately machined and heat treated for

toughness. It is a very useful tool and will save damaging lots of parts.

GENERATOR MOUNTING BRACKET

The Generator Mounting Bracket (No. A4B) is shown on opposite page, attached to a K R W Test Stand. This Bracket can be mounted on a bench and used in connection with any other test stand—a longer belt being the only other change.

GENERATOR BEARING REAMER, FIXTURE AND DRIVER

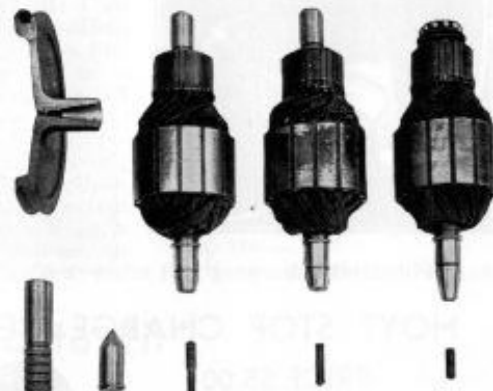


The K R W Generator Bushing Driver (No. A4M) is used to push the old bushings out the new bushings in. The sheet metal bearing cover and oil cup should be taken out before removing or replacing the bronze bushings. It does a neat, workmanlike job.

The K R W Generator Bearing Reamer (No. A4L) and Fixture (No. A4K) is used to ream the generator outer end plate bronze bushing. A reaming fixture is absolutely necessary to secure an accurate bearing and perfect alignment. Please note this fixture is made with a boss on it to be held in a vise. It is also recessed to hold the end plate exactly as it is held on the generator housing. The two thumb screws secure it.

SPECIAL PULLEY AND ACCESSORIES

A Special Pulley (No. A4H) and three special adapter screws are necessary to handle the three styles of armatures now used in Model A Generators—on account of the difference of taper and size of cap screw used on end of armature shaft. A longer lathe center (for K R W test stand) and another armature driver is also required for the two newest styles. These parts are now included with all A4 Groups, although not shown in the picture of that group. This set will be furnished to previous purchasers of A4 Groups for \$4.25.

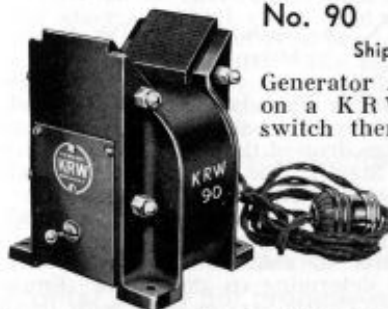


K R W "GROWLER"

No. 90

PRICE \$9.00

Shipping Weight 9 Pounds



Generator Armatures are easily tested on a K R W Growler. Turn on the switch then twist the armature once around and the test is completed. It never wears out and is good for a lifetime. It is extra well constructed having a laminated core and extra heavy windings. Induces the same amount of current as if the armature were operating at 3600 RPM speed. If there is a short it is bound to show up.

K R W MASTER METER

★ No. 108
PRICE \$8.00

Shipping Weight 4 Lbs.

THE K R W Master Meter is a high grade, accurately calibrated instrument used for checking the generator charging rate. Millions of storage batteries are being ruined and burned from overcharging — because the average mechanic does not realize that the Model "A" Starter requires only a fraction as much current to operate it as did the Model "T". Therefore if the current is not used it must not be generated. Otherwise batteries overheat, quickly evaporate the water, then buckle the plates, which causes them to "shed" the filler and short circuit. Every generator should be adjusted to the individual requirements of the driver. **EXAMPLE:** A salesman driving during the day six days a week would possibly require a charging rate of not more than 4 amperes. While a working man or store clerk who uses his car exclusively for family pleasure on week ends would require a charging rate of double that amount or 7 to 8 amperes. Bakery and Laundry commercial cars operating during daylight hours will usually find a charging rate of 3 to 4 Amperes sufficient to keep the battery fully charged and in perfect condition. The average car is now set at 10 to 15 Amperes, or two or three times greater than it should be. More than 98% of all storage battery failures can be traced to overcharging — due largely to carelessness of mechanics. Correct the trouble by testing and correctly adjusting the charging rate to suit each individual customer — on every car that comes in for service of any kind. Ford owners will appreciate this service. The final results will prove the FORD battery vastly superior to other makes offered in competition with it. Read what we say on another page about "Constant Potential" charging and what it does to batteries.

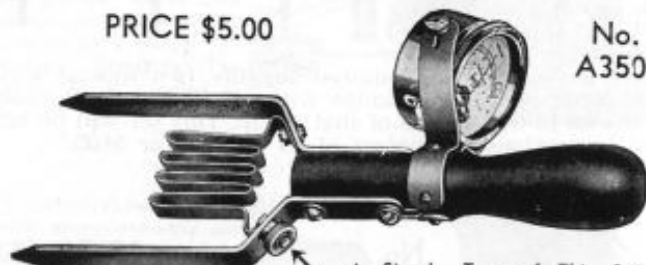


stant Potential" charging and what it does to batteries.

HOYT STOP CHARGE CELL TESTER

PRICE \$5.00

No. A350



Shipping Weight 2 Lbs.

A Simple Turn of This Switch Makes This a Two-in-One Cell-Tester

THE Stop Charge Cell Tester is a handy, reasonably priced, double duty instrument for testing batteries while still on the charging line—also voltage drop of the battery cells under actual operating load of the Starter. The instrument is a high grade "moving coil" Voltmeter, with a scale 3-0-3 Volts—150-0-150 Amperes—Red line at 2.5 Volts for stop charge test. A 50 Ampere resistance load is quickly cut in by the switch, thereby enabling the operator to make a "high rate" discharge test of each cell to determine its condition. Equip your Battery Department and Quick Service men with these instruments and get better results. Stop guess work and create customer confidence.

K R W COIL UNIT TESTER

No. A381
PRICE \$12.50

THE New K R W Coil and Condenser Tester locates ignition troubles quickly and accurately. You can tell in a minute, whether the trouble is in the Coil, Condenser or distributor head.

This tester is a K R W Quality product—built in large quantities—in K R W Factories and sold at a price so low you cannot afford to get along without it. It is gross extravagance to replace coils without testing them. We have found a large percentage of ignition troubles were elsewhere. Cut out the guesswork and build confidence.



Shipping Weight 6 Lbs.

Directions for Operating

To test Model A Spark Coil disconnect red and high tension wires at spark coil and replace with red and high tension attached to the K R W coil tester. Clip Coil Tester ground wire onto gasoline pipe.

If meter shows 5 amp. when circuit is closed, and the spark jumps the $\frac{3}{8}$ " gap when the tester crank is rotated the coil is a good one.

If it draws more than 5 amp. it has a shorted primary and should be replaced.

If the coil is hot but will give no spark its primary is grounded to the case. If coils test O. K. but gives no spark at spark plugs, when engine is cranked, test the condenser as follows, replace the regular red wire which was disconnected at spark coil. Place paper between breaker contacts. Clip coil tester red wire onto spark coil red wire terminal.

Replace regular high tension wire at spark coil with coil tester high tension wire. Press coil tester push button while turning coil tester crank. If no spark appears at coil tester spark gap the condenser is defective. If there is a good spark the condenser is O. K. but the breaker contact needs honing or replacing.

Usually faulty ignition is caused by insufficient gap between breaker contacts. This should be .020" wide when in opened position.

Occasionally ignition trouble is caused by a ground in the wire which is in the ignition switch steel cable.



Connections Are Quickly and Easily Made Without Removing Coil From the Car.

TROJAN BREAKER POINT HONE

No. A401 PRICE \$10.00

Shipping Weight 6 Lbs.

THE Trojan Breaker Point Hone will "square up" ignition points, and greatly increase the efficiency and smooth running qualities of most Model A cars by better ignition. This high grade fixture is a real tool, accurately made and guaranteed to "deliver the goods". You can get along without it, but you wouldn't after you try it.



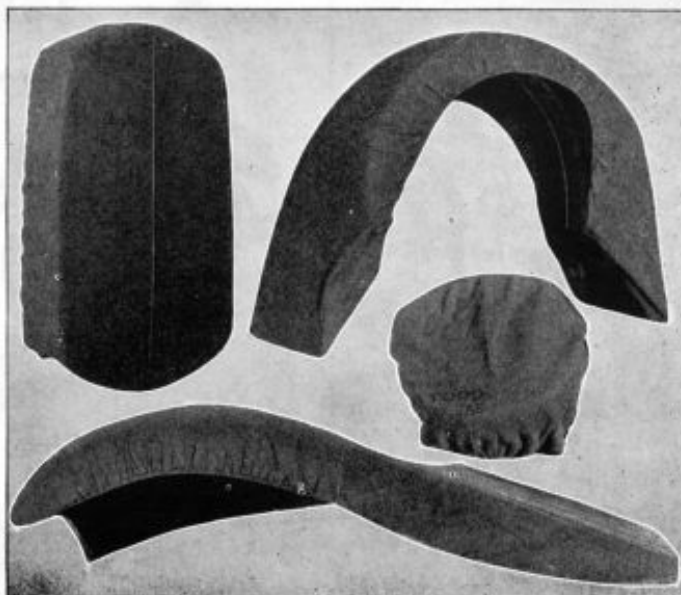
K R W "QUICK ON" PARTS BAGS

Protect Your New Fenders, Radiator Shells, Head Lamps, and Other New Parts With These Convenient and Inexpensive Covers.



Photo above shows how easily Radiator Shell Cover is applied. It requires but a few seconds. Photo upper right shows Fender Bag being put on.

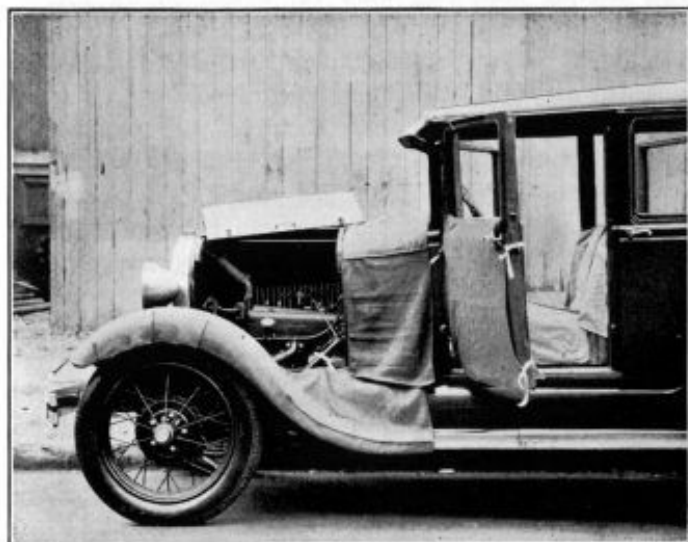
EVERY Ford Dealer should procure a sufficient number of these New "Quick On" Parts Bags to take care of his stock of Fenders, Radiator Shells, Lamps, etc. Considering the protection they afford, and the prices so reasonable, they pay for themselves by keeping your stock new and salable instead of allowing it to become marred, scratched and shop worn. Your customers pay for new parts and are not satisfied with less. Try a few K R W "Protectors", you will want more.



PRICES

No. 384A—	
Front Fender Bag	\$.70
No. 384B—	
Rear Fender Bag .....	.48
No. 384C—	
Dust Shield Bag .....	.45
No. 384D—	
Radiator Shell Bag .....	.45
No. 384E—	
Headlamp Bag .....	.25
No. 384F—	
Bumper Bag .....	.27
No. 384G—	
Splash Shield Bag .....	.22
No. 384H—	
Lamp Rim Bag .....	.18
No. 384I—	
Horn Bag .....	.15
No. 384J—	
Horn Tierod Bag .....	.18
No. 384K—	
Steering Wheel Bag .....	.28
No. 384L—	
Headlamp Reflector Bag..	.20

K R W CAR COVERS "Tailored to Fit"



No. A362

PRICE \$6.50 Set

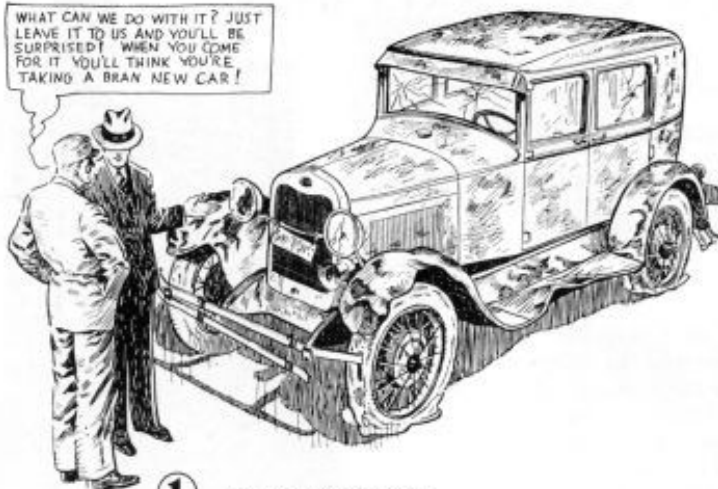
SIX SETS FOR \$36.00

K R W Car Covers are made of practically the same materials as our high grade competitors use except that they are "Tailored To Fit" snugly and smoothly and will not slip off on the floor to be tramped upon and become dirty. The set consists of two fender covers, two door covers, one each cowl, seat and steering wheel cover. No other useless items. These prices save you about \$2.00 per set over competitors. K R W guarantees them better. The low price is possible only because of our large volume—without any selling costs. The Ford Motor Co. saves you this expense. State whether for 1929, 1930 or 1931 models.

SHIPPED FROM FACTORY, FREELAND, PA.

Mr. Ford Dealer! Are you allowing your competitors and independent service stations to 'cut-in' on your Profits? Why not properly equip your shop to handle the volume of business that should be yours?

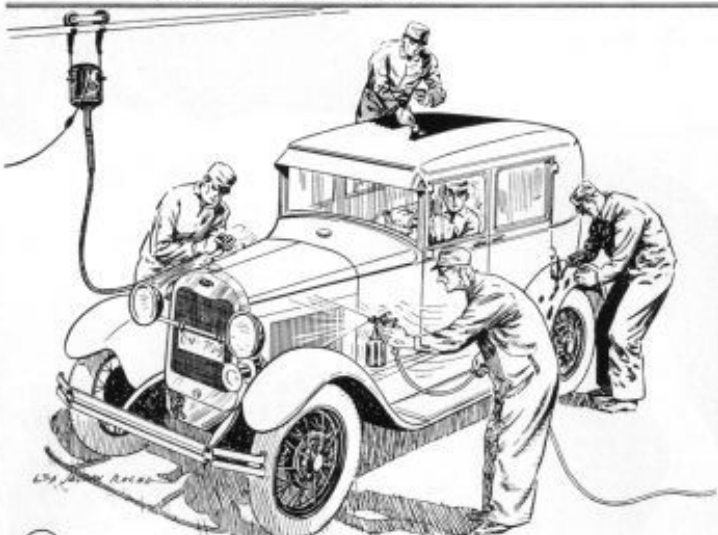
WHAT CAN WE DO WITH IT? JUST LEAVE IT TO US AND YOU'LL BE SURPRISED! WHEN YOU COME FOR IT YOU'LL THINK YOU'RE TAKING A BRAND NEW CAR!



① THE "WRECK" ARRIVES —



② FIRST THOROUGHLY WASHED AND CLEANED, THEN OVERHAULED AND REBUILT —



③ FINAL FINISHING TOUCHES MAKE THE CAR LOOK LIKE NEW



④ THE PROMISE FULFILLED AND A PLEASED CUSTOMER

SHOW HOW "THE IMPOSSIBLE" CAN BE DONE

With proper facilities and equipment the Service Station can convert most any "wreck" into a car that will surprise the owner.

THE above pictures do not, of course, show the details or various stages in transforming a "wreck" into a rebuilt job. They merely give at a glance a brief picture of what can be accomplished in the way of repairing or rebuilding cars that to all appearances seem fit only for the junk pile. In the first picture it is obvious that the service station is well equipped to handle just such "cases" as the one shown. It no doubt has a number of Hydraulic Lifts—Free-Wheel type, one of which is indicated in the second picture. For, first of all, the "wreck" must be thoroughly washed and cleaned so as to be accessible for a thorough inspection and for the job of repairing or rebuilding and repainting to follow. This type of lift is the only kind on which a car can be properly and thoroughly washed. The wheels can be washed as well inside as out which is seldom done in car washing in the old fashioned way where pits or racks were used. The weight of the car does not rest on the wheels—affording an opportunity to carefully inspect the wheels, spindle bolts, hub

bolts, steering gear, etc., while car is still on the lift, and with no loss of valuable time.

With the proper Body Bumping Kits, any service station can repair damaged fenders and body to look as good as new. Likewise it is necessary to be equipped with proper Paint Spraying Outfits, Touch Up Guns, Striping Tools, etc., so that after the dents and damaged places about the fenders and body have been restored they can be painted and refinished to look like new. These tools are so inexpensive and yet so important that no service station can afford to be without this necessary equipment to handle such "cases".

Dealers must keep pace with the times and should check up on their equipment and see if it is suitable to turn out the class of work demanded to meet keen competition and hold their business. Inefficient and obsolete pieces should be thrown out and replaced with new and better ones. Remember, Mr. Dealer and Service Manager, it's the shops that turn out the BEST jobs in the quickest time that get the business.

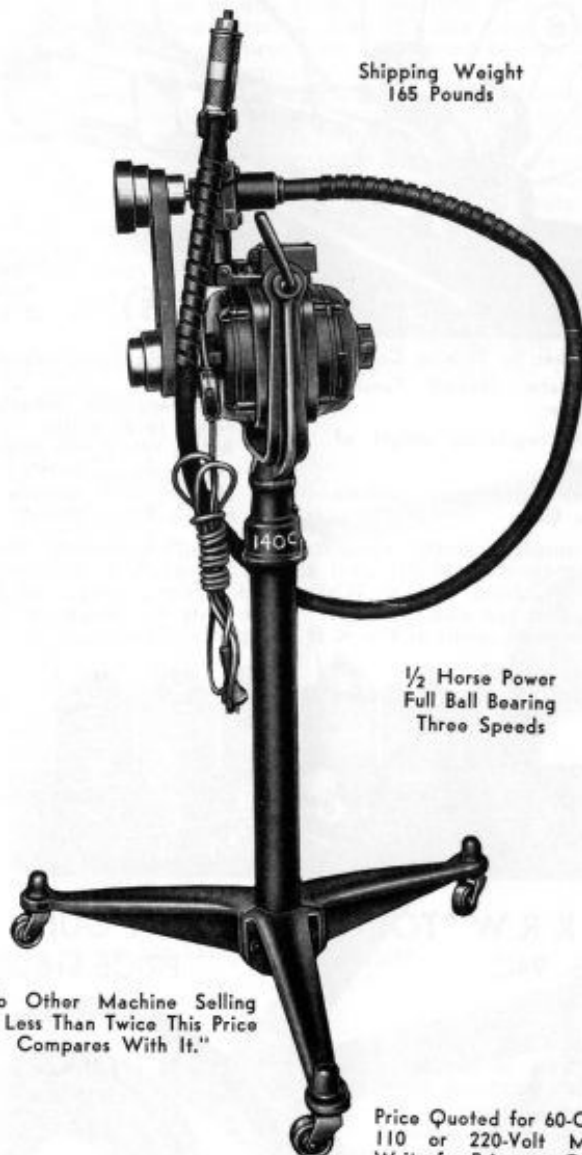
K R W POLISHER AND BUFFING MACHINE

No. 140C

PRICE \$68.00

F.O.B. FACTORY, ARCADE, N. Y.

Shipping Weight
165 Pounds



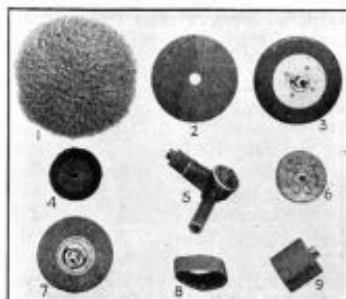
1/2 Horse Power
Full Ball Bearing
Three Speeds

"No Other Machine Selling
for Less Than Twice This Price
Compares With It."

Price Quoted for 60-Cycle,
110 or 220-Volt Motor.
Write for Prices on Others.

THE K R W "All Purpose" portable, polishing and buffing machine has been developed primarily to help Ford dealers make more money by polishing or refinishing their used cars and on repair work. It will do more and better work than ten men can do by hand. Having three speeds, it is an "all purpose" machine and can be used for hundreds of operations—with various attachments which can be supplied at low cost—a few of which are shown below. Motor—1/2 H.P. Ball Bearing, Repulsion-Induction—heavy duty type, fully enclosed—mounted in a yoke which can be allowed to swivel, or locked in any convenient position, as illustrated.

FLEXIBLE SHAFT—made by "Binghamton" 6 ft. long with a 7/16 inch, reverse-laminated core. Countershaft and hand piece mounted in 4 ball bearings. Outside casing is rubber covered to avoid scratching. Spiral Spring reinforcements at important points to avoid kinking. Entire motor assembly is mounted on ball bearing swivel head, so that it will turn easily without moving the stand.



ATTACHMENTS

No. 1.	7 Inch Wool Buff	\$ 2.00
No. 2.	7 Inch Sanding Disc	.30
No. 3.	Polisher and Sanding Pad	4.50
No. 4.	Four Inch Wire Brush	1.25
No. 5.	1 to 2 Angle Head	18.00
No. 6.	Six Inch Cloth Buff	1.00
No. 7.	Emery Wheel Arbor only	1.50
No. 8.	Sanding Drum Band	.30
No. 9.	3 x 3 Rubber Sanding Drum	2.00

A LACQUERED job is only half finished unless it is rubbed, then buffed to a high lustre. This picture shows the straight line drive with 7-inch sheep's wool buff. Used cars can be completely cleaned and Simonized to look like new, in less than two hours. Simonizing pays big profits. Go after it; cut the price—get the volume and make **BIG MONEY.**

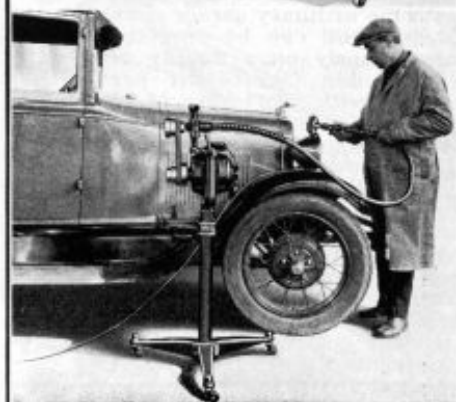
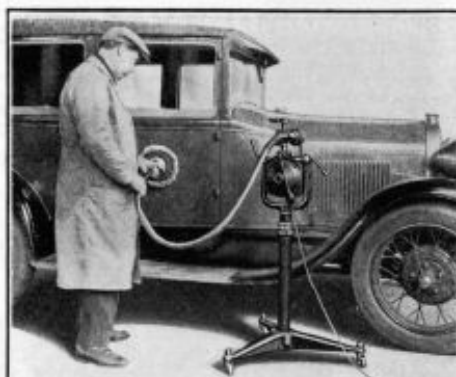
RUSTY spots in unhandy places are quickly cleaned for repainting with a 4-inch rotary scratch brush.

THE 3 x 3 inch Rubber Sanding Drum is used for grinding and polishing wide areas, such as "dinged spots", etc. Inexpensive abrasive bands are used.

THE Angle Head is desirable for the most convenient positions—for polishing and buffing operations on the body and fenders—and when used with a flexible felt pad for rubbing down lacquer to eliminate "orange peel". A slow speed of about 900 R.P.M. is recommended. Then the final polish at full motor speed.

CLOTH Buffs are used to polish all nickled and plated parts—much better, ten times faster.

The K R W "THREE-SPEED" MACHINE does it.



NEW TYPE "LIGHTNING" ROTARY STRIPER No. 14B

K R W SPECIAL PRICE FOR COMPLETE OUTFIT

\$19.50 F.O.B. ARCADE, N. Y.

Saves You \$4.50 on This \$24.00 Outfit

NOW anyone can stripe Automobiles — easily, perfectly, with this practical new type "LIGHTNING ROTARY STRIPER. Stripes of all kinds roll out from under this rotary striper as easily and quickly as you can move your hand. Anyone can now turn out a first class job of striping with this marvelous little instrument.

The only 100% Mechanical Striper on the market. So simple a boy can operate it. Rolls fine, medium or wide, single, double, or triple stripes — whatever you desire. Endorsed by artists and expert hand stripers.

Invented by a practical painter with years of shop experience. Perfected by expert mechanics to turn out perfect striping. Saves its small cost in a few days time. Brand new—no other type of Striper like the "Lightning." Suitable for every paint shop, large or small.

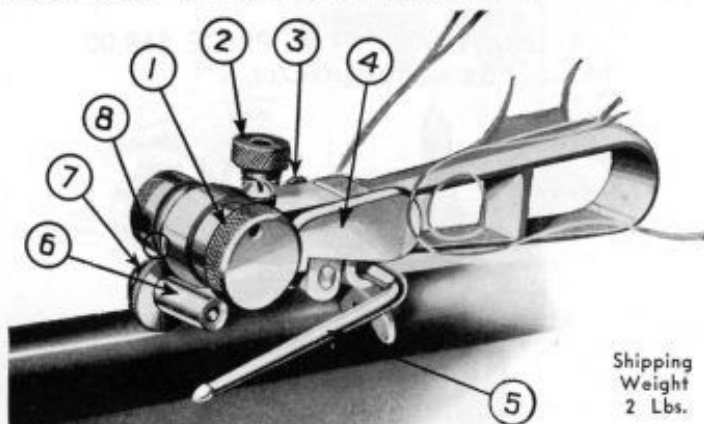
How the "Lightning" Striper Works

Lift Container cover—fill with color. Adjust guide to place stripe where desired, and hold striping disc squarely on

surface to be striped. Slide guide along bead, moulding or window or door edge. Press thumb lightly on trigger and draw striper along surface, as rapidly as desired. The rotary wheel, rolling in and out of container through slot rolls the stripe on evenly and accurately. Adjustable guide assures a perfect job. A set of four different sizes and shapes of guides furnished, to obtain any number of different results. **EASILY CLEANED**—nothing to get out of order.



Striping Disc Wheels an Easy Task



Shipping Weight 2 Lbs.

- | | |
|---|--|
| 1. Chamber for Striping Color. | 5. Adjustable Guide insures perfect lines. |
| 2. Automatic Shut-off Tension Adjuster. | 6. Interchangeable Wheels for varied stripe widths. |
| 3. Screw regulating weight of stripes. | 7. Rotary Wheel rolls stripes on car evenly, accurately. |
| 4. Automatic Trigger controls color flow. | 8. Slot in color chamber admitting Rotary Wheel. |

The complete outfit consists of one "Lightning" Rotary Striper, (price \$19.50) and six 8.75 cans K R W Assorted Striping Colors, Yellow, White, Red, Green, Ivory, and Blue. (Price for six cans, \$4.50). Save this \$4.50 by ordering the complete outfit at the K R W Special Price.



K R W PAINT SPRAY OUTFIT

No. 94 PRICE \$35.00

F.O.B. Baltimore

Shipping Weight 30 Pounds

A Complete Paint Spray Outfit of the highest quality, including:

- 1 Gun complete with Container
- 1 Air Purifier
- 1 Air Pressure Regulator
- 25 ft. Hose and Connections.

The K R W — Melburn Paint Spray Gun was created and developed in the Ford Engineering Laboratories and has been in general use on production of New Cars during the past four years. We have sold more than 7500 to Ford dealers throughout the World. This gun has been developed to accommodate practically all grades of paints, lacquers, varnishes, etc., by substitution of different sized, interchangeable nozzles. It can be used with the ordinary garage compressor and can be operated continuously on a supply of eight cubic feet of air per minute with a pressure of 25 to 60 pounds or more. Instantly adjustable for flat, vertical or round spray, or air only, for dusting purposes. Extra Aluminum Containers with tops can be supplied at low cost for storing various colors of lacquer. Paint your garage and home with it. Does better work and cuts ordinary painting cost 300 per cent. You cannot purchase a better outfit at any price.



K R W "TOUCH-UP" PAINT GUN

No. 94C

Shipping Weight 3 pounds

PRICE \$16.00

THE K R W Touch-Up Gun is invaluable for touching up scratches, mars, and dents on automobile bodies, fenders, etc. It is very quick in operation, well balanced and easily handled. A slight pressure on the trigger produces a fine mist so completely atomized that the color is blended with the surrounding painted surface. It also embodies the same features and high grade construction as in our regular No. 94 Paint Spray Gun.

With multiple head, a flat horizontal or vertical or a round spray is obtained. It is regularly furnished with an 8 oz. capacity aluminum container and six feet of air hose. Reports from hundreds of users indicate that a Touch-up Gun is an essential piece of equipment. Many sales have been lost and more than a few customers dissatisfied because of a little scratch or mar on the finish of their new car. On another page where we illustrate "How the Impossible Can be done", you will see how a Touch-up Gun can be used to the greatest advantage in repair work or preparing used cars for the show room floor. A few minutes time invested in dressing up these jobs with new lacquer where the rust has been showing through will pay big dividends in the extra selling price you can get for the car.



See Page 92 of this Catalog showing Gun in use.

K R W WRECKING CRANE

THE K R W Wrecking Crane has been designed to incorporate the maximum of power and strength without twisting or pulling out of shape. The peak of the boom is the most critical part of any crane. At that part we have greater strength than in any other regardless of price. The K R W is made of heavy rolled steel "T" Bar (not castings); there is no danger from breakage. The load is swung from that point and exerts a crushing strain down on the boom, which is attached to the very base of the winch frame. The load pulling down then exerts a "pulling apart" strain on the adjusting braces, which attach to the winch frame diagonals and extend down to the base plate which is bolted to the floor or sills of the service car. Perfect bracing completes the most perfect design for strength without strain. The adjustable braces allow the boom to be raised or lowered to the most convenient position. Upper block swings and swivels in every direction allowing pull from any angle. Blocks may be instantly detached and used on a direct pull from the winch for dragging wrecks out of ditches.

THE gears are strongly webbed and ribbed and have 2-inch face teeth which is 25% heavier than our competitors are using. The Geared leverage is 6 to 1 and with a triple line of chain gives a final 252 to 1. Making it very powerful and easy to operate. 35 feet of the very best quality BBB 5/16 inch chain is furnished. It is rated at 5400 pounds as a safe working load, and a safety factor of 4 to 1 or four times greater than we have rated it. Compare its design and construction with any and all other makes regardless of price, then you will appreciate its wonderful value. It is a crane that will render long and reliable service.

Shipping Weight 330 Lbs.

No. 92

PRICE \$60.00

F.O.B. Our Own Factory

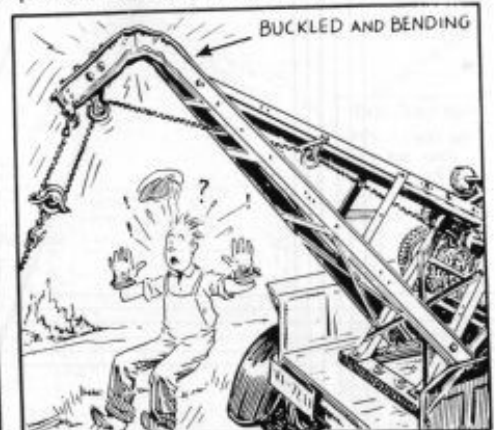
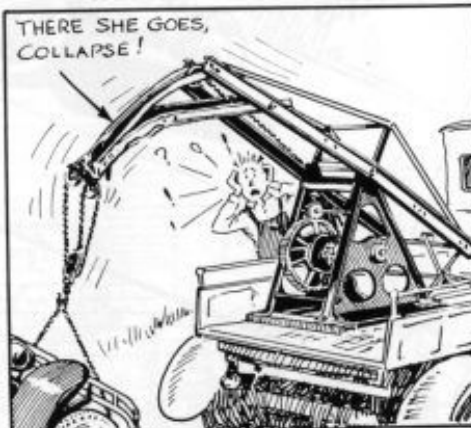
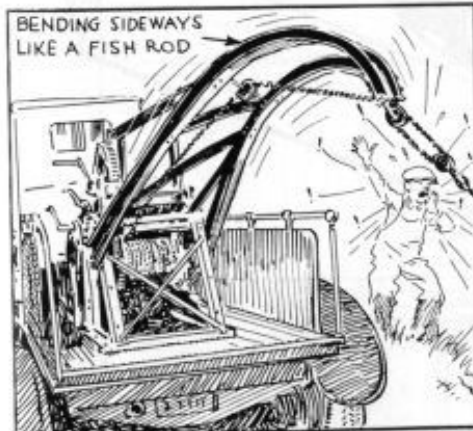
Shipping Weight 330 Pounds

"NONE BETTER
REGARDLESS OF PRICE."
K.R.W.

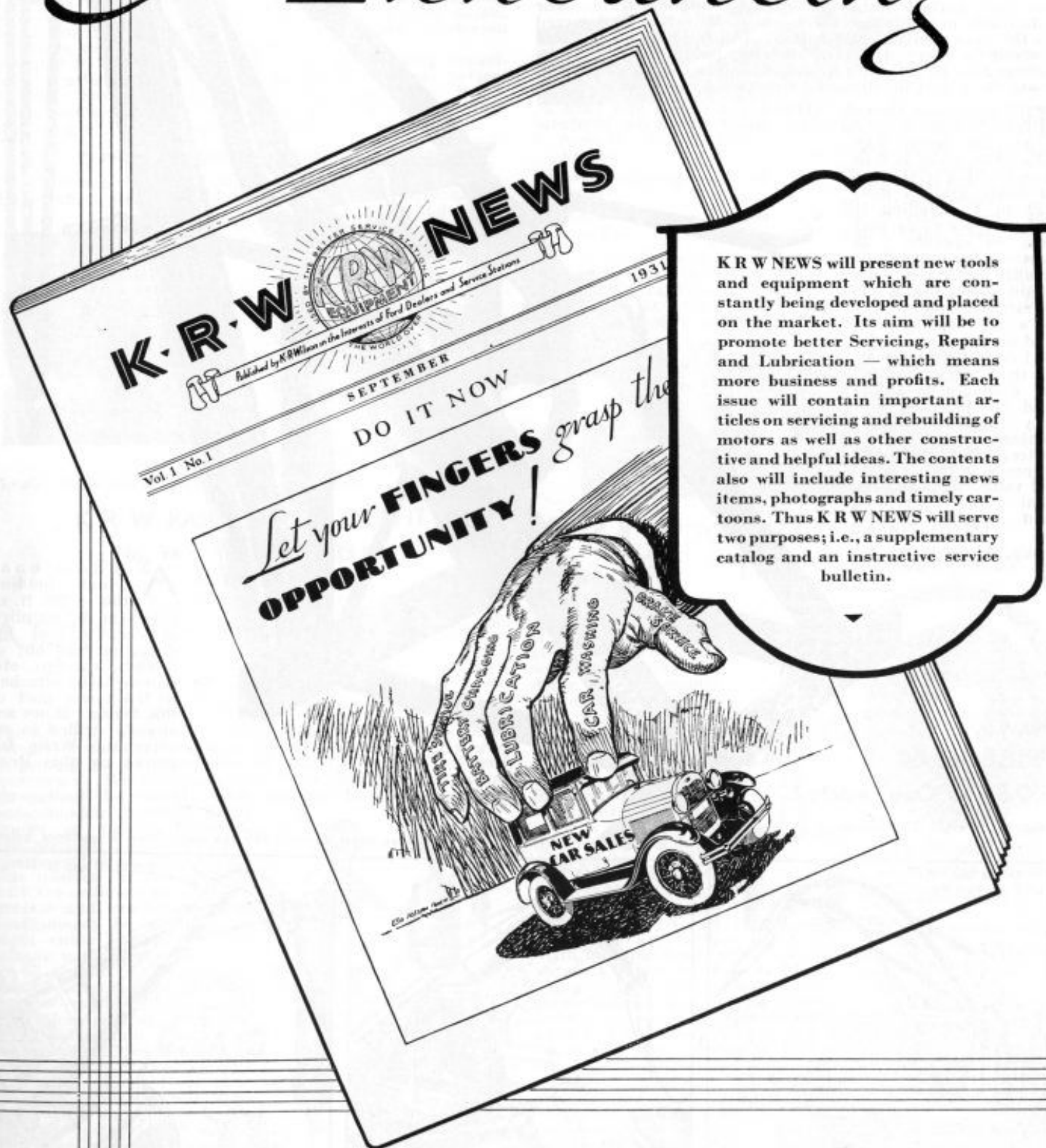


AN additional winch holding 100 to 200 ft. of cable can be supplied at extra cost for dragging cars out of ditches, swamps, etc. Can be easily attached to the lower part of this frame. Holes are already drilled to receive it. Write for prices on this item.

K R W Cranes never perform like the ones shown in cartoons below



Announcing



K R W NEWS will present new tools and equipment which are constantly being developed and placed on the market. Its aim will be to promote better Servicing, Repairs and Lubrication — which means more business and profits. Each issue will contain important articles on servicing and rebuilding of motors as well as other constructive and helpful ideas. The contents also will include interesting news items, photographs and timely cartoons. Thus K R W NEWS will serve two purposes; i.e., a supplementary catalog and an instructive service bulletin.

HOW TO SELECT AN AIR COMPRESSOR

Choose one of sufficient capacity to handle Present and Future requirements.

TO determine the proper size and type of air compressor, compute the total air consumption of your air operated equipment, using the table shown in the next column. After figuring the total, strike an approximate average of the appliances that will be quite regularly used at the same time. Then you may select a compressor of sufficient cubic feet capacity to handle the average requirements, but you should have a reserve to take care of peak loads. We always recommend purchasing a larger capacity compressor than at the time may seem necessary, because, in modern shops, additional air operated equipment is added from time to time. Why not plan for future requirements when ordering?

The capacity of a compressor is figured on the volume of air displaced at each stroke of the piston, multiplied by the number of compression strokes per minute, which gives the cubic feet per minute. On two stage compressors only the low pressure piston is considered, as the high pressure only compresses the air which comes to it from the low pressure cylinder.

SINGLE STAGE COMPRESSORS

THE single stage compressor takes air in at atmospheric pressure, compresses it at one stroke of the piston to the final required pressure then through an intercooler into the tank.

K R W Single Stage, single cylinder "Little Boy" and "Big Boy" Compressors are suitable for pressures up to 150 lbs. on intermittent service, but are not recommended for constant duty at peak pressure loads, because every make of single stage compressor will overheat and cause valve trouble when run continuously.

These Compressors have every modern improvement as shown in cross section on page 99, such as Timken bearings, counter-balanced crankshaft, "feather valves", brazed tanks, (not welded) and a new type patented check valve, which operates only when the compressor starts and stops. The expansion chamber attached to the cylinder is an original K R W idea. This allows the air to be discharged from the cylinder directly into this chamber without excessive back pressure. (Operating on the same plan as the air chamber on a water pump.) This smooths out the air flow as it is passed through a large copper "finned" intercooler into the tank. This expansion chamber reduces pumping time over 12%. A positive mechanical unloader built on the end of the crankshaft prevents starting against load. Many other improvements are included which puts these compressors in a class by themselves—for the service recommended. See page 47 for further suggestions.

TWO STAGE COMPRESSORS

K R W Two Stage Compressors, operating at 180 pounds pressure, are recommended for use with equipment requiring from 100 to 175 pounds working pressure. For this service they are much more efficient and are subject to less wear and

tear than single stage compressors. Instead of compressing the air from the initial to the final pressure with one stroke of the piston, two stage compressors accomplish this in two easy stages—air is taken into the large (low pressure) cylinder and compressed to an intermediate pressure of approximately 40 pounds, then passed through a very efficient intercooler to remove the excess heat and reduce the temperature (which is already less than one-half that of the single stage) before it enters the small (high pressure) cylinder, which compresses the air to the final pressure, and through another intercooler before it reaches the tank. The two pistons of the K R W two-stage compressor are so proportioned that the load is balanced. The large piston pumps against a low pressure and the small piston pumps against high pressure, so that each piston does the same amount of work. (See cross section on Page 98). The lower temperature at which these compressors operate prevents overheating, valve trouble and permits satisfactory lubrication at high pressure.

AIR OPERATIONS

	Average Cu. Ft. per Minute Required
Tire Inflation	1.5 per tire line
Spray Painting (Flat Spray)	7 to 9
Spring Oiling	3
Cleaning Motors	6
Valve Grinding	2
Blow Guns	3
Grease Guns	4
Air Hammer	12 to 15
Air Doors	2
Gasoline Pump	1
Air Operated Lifts	6
Pneumatic Car Washer Nozzle	4 to 10

AIR FLOW TABLE

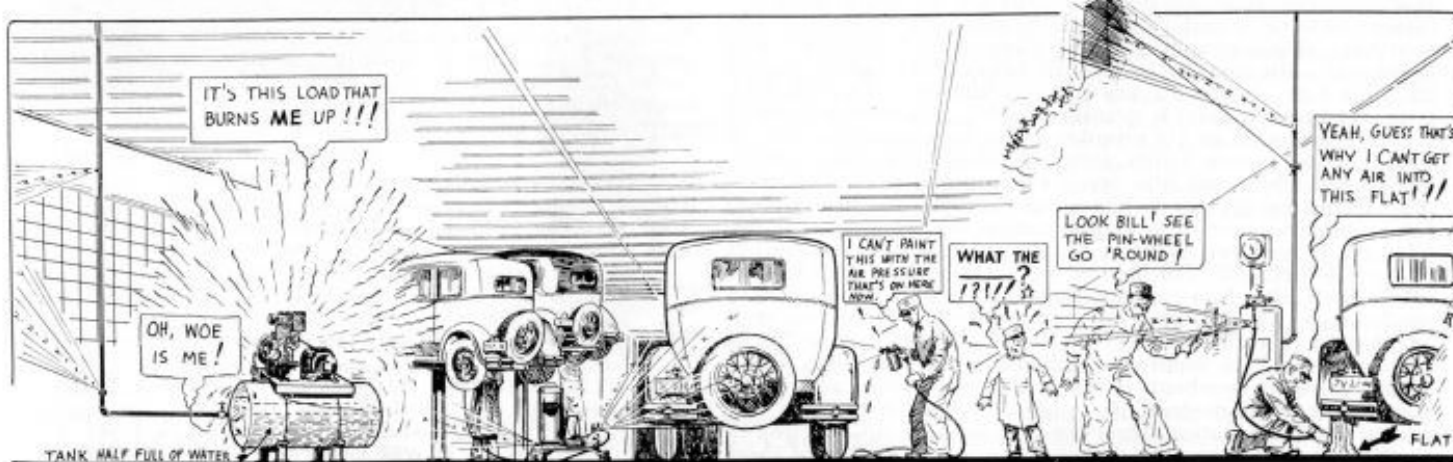
	100 Lbs.	125 Lbs.	150 Lbs.	
1/64 Inch	.40	.486	.57	Cu. Ft.
1/32 Inch	1.61	1.97	2.33	Cu. Ft.
1/16 Inch	6.45	7.85	9.20	Cu. Ft.
1/8 Inch	25.8	31.4	36.7	Cu. Ft.

Volume of cubic feet of Free Air that will flow through a round hole into atmosphere per minute, at the pressure shown.

The cartoon below has been made to show the "Problems of an Air Compressor." In many shops the leaks alone are wasting MORE air than is being used to operate all equipment. Faulty piping, hose, valves and appliances should be inspected weekly and tanks drained of moisture occasionally.

IMPORTANT

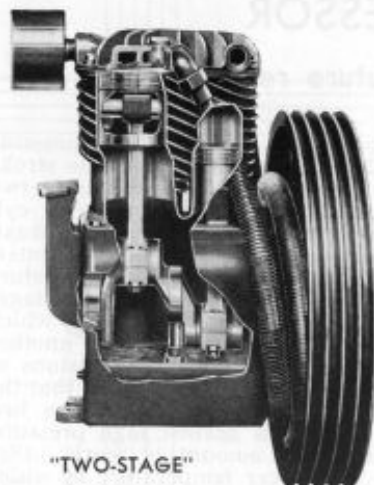
Any compressor operating more than three fourths of the time IS OVERLOADED! The finest compressor in the world will fail under such conditions. 95% of all air compressor failures can be traced to this cause. That's why we have taken great pains to present these facts, that you may avoid the mistakes of many others who have selected compressors far too small for their requirements.



K R W "HIGH PRESSURE" AIR COMPRESSOR

"Especially Suited for Hydraulic Lift Service"

23 Cubic Feet Capacity. 180 Pounds Working Pressure.
Two-Stage Compressor. 5 HP.—Three Phase Motor.
78 Gallon Extra Heavy Brazen Tank. Full Automatic—
Including Overload and Under Voltage Controllers.



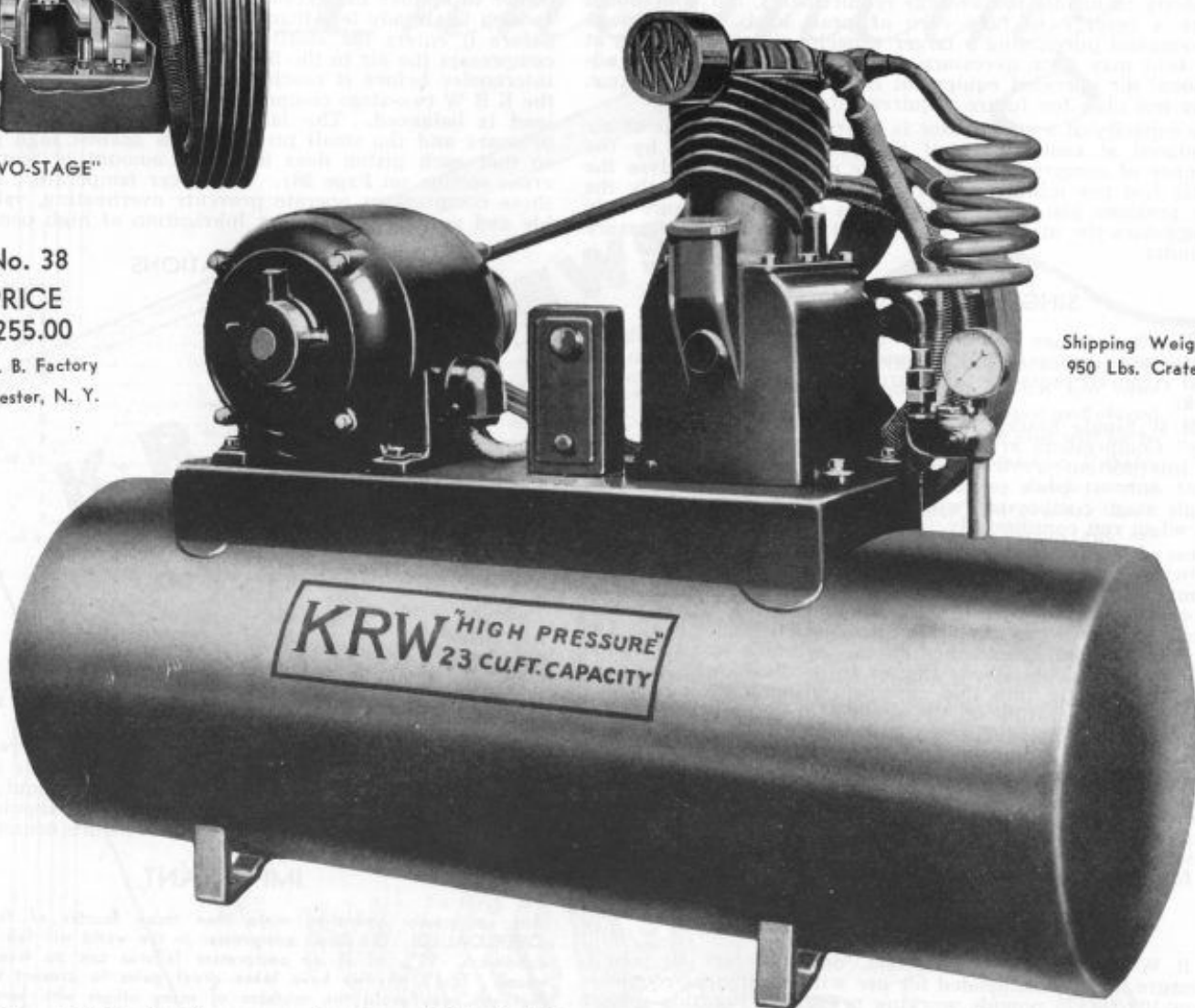
"TWO-STAGE"

No. 38

PRICE

\$255.00

F. O. B. Factory
Rochester, N. Y.



Shipping Weight
950 Lbs. Crated

THIS New KRW Air Compressor has been built for the dealer who needs plenty of air—at high pressure. A big, powerful, two-stage compressor with all the latest improvements such as counter-balanced crankshaft, Timken roller bearings, oil pump, copper finned inter-cooler, multiple V belt drive, etc. Hitched up to a 5 HP heavy duty motor, pumps 23 cubic feet of free air per minute, fills the 78 gallon tank from zero to 180 pounds pressure in 7½ minutes, from cut-in point (145 to 180) in 1½ minutes. The tank capacity alone is sufficient to operate 3 lifts simultaneously—carrying average loads—and additional lifts every 1½ minutes. "That's pumping"! This compressor is just what you need for present and future requirements of your lubrication department. 135 lbs. pressure is required to lift a maximum load of 6,000 pounds on an 8½-inch lift—110 lbs. on a 9½-inch lift and 97 lbs. on a 10½-inch lift. You can therefore understand why ordinary single-stage, garage type air compressors are not so well adapted to this class of work. They must operate at "peak pressure loads" to secure enough air to operate lifts. This causes them to overheat, crack and break valves and check valves and often overload the motor, causing it to burn out. Insure your lubrication department against tie-up and loss of profits due to air compressor failure by installing one of these

outfits. Volume production—one size only enables us to sell it to you forty per cent less than you would pay a jobber for a similar outfit. Compare it with all others. The price quoted includes our extra heavy standard brazen tank for 200 pounds working pressure. 5 HP. 60-cycle, three-phase, 220 volt motor. Full automatic equipment—including overload and under voltage circuit breakers—full protection against single phasing and burning out motors.

EXTRAS

- ADD \$49.00 for 60-cycle, single phase, 110-220 volt
- ADD \$35.00 for 25-30-cycle, 2-3 phase, 110-220-440 volt.
- ADD \$59.00 for 25-30-cycle, single phase, 110-220 volt.
- ADD \$93.00 for direct current (see note) 115-230 volt.
- 50-cycle motors same price as 60. Write for prices on odd frequencies and voltages. NOTE: DC job also includes automatic starting rheostat. Add \$6.00 for Export crating.
- ADD \$8.00 for A. S. M. E. tanks (83 gallon) for Chicago, Detroit, California, Oregon, Ohio and Ontario, Canada.
- ADD \$12.00 for SPECIAL (83 gallon tank) for Alberta, Quebec. We reserve the right to equip these compressors with any suitable motor of standard makes.

CONSULT YOUR POWER COMPANY BEFORE ORDERING.

K R W "Single Stage" AUTOMATIC AIR COMPRESSORS

For Intermittent Service — Working Pressure 150 Lbs.

K R W "BIG BOY" 9½ Cu. Ft. Capacity

No. 39C

PRICE \$147.50

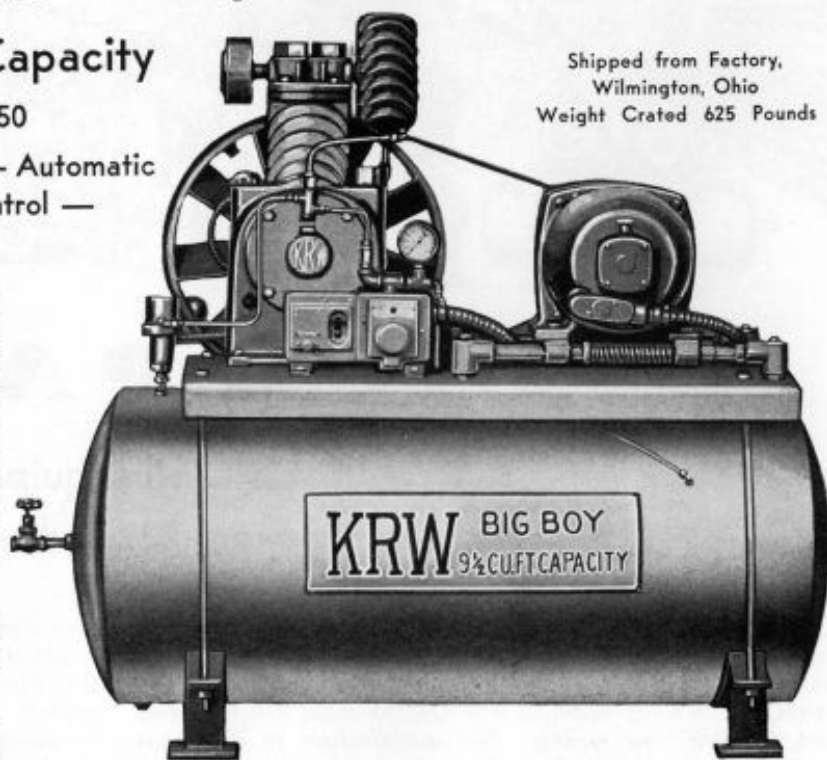
2 H.P. Three Phase Motor — 60 Gallon Tank — Automatic Overload and Underload Voltage Control — Positive Mechanical Unloader

THE new K R W "Big Boy" is especially adapted for general garage use. It has ample capacity for one Hydraulic Lift and the usual air operated equipment found in the small dealership. Counter-balanced crankshaft, Timken roller bearings, extra large counter-balanced, fan type flywheel, copper finned cooling coil, positive pressure automatic unloader—operating from the crankshaft, new check valve—operating only when the compressor starts and stops, undervoltage and overload relay (explained on page 87) which prevents burning out three phase motors, together with many other refinements make it one of the finest single stage compressors on the market at any price.

Several thousand "Big Boy" Compressors are now in use, and, with the exception of a few which are badly overloaded, most of them are giving perfect satisfaction.

60 gallon copper brazed tank having a safety factor of 5 to 1 is furnished. An 80 gallon tank will be supplied for \$10.00 extra. Special A.S.M.E. TANKS are required in Chicago, Detroit, California, Oregon and Canada. These can be supplied at \$9.00 extra.

PUMPING TIME— 0 to 150 Pounds.....12½ Minutes
120 to 150 Pounds..... 3 Minutes
Compare the pumping time of any K R W Compressor with that of any similar size of any other make, then you will appreciate why these improvements are "built-in" K R W's.



Shipped from Factory,
Wilmington, Ohio
Weight Crated 625 Pounds

ADDITIONAL MOTOR PRICES AND EXTRAS

25, 30, 40 Cycle 2 or 3 Phase, also 60 Cycle Single Phase Motors—
\$21.00 Extra.
25, 30, 40 Cycle Single Phase—\$38.00 Extra.
DIRECT CURRENT, including Magnetic Automatic Starter, 110 or 230
Volts—\$43.00 Extra.
EXPORT BOXING \$6.00 additional over crating.

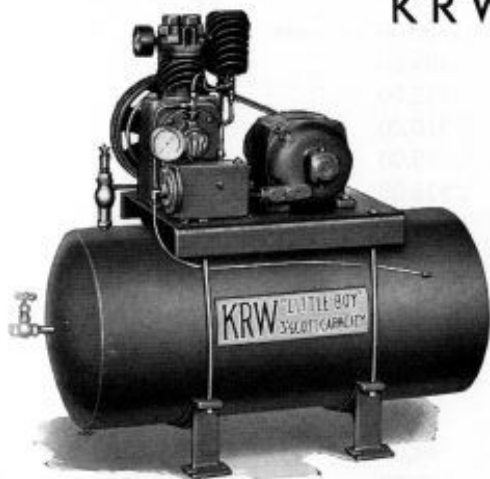
K R W "LITTLE BOY" 3.3 Cu. Ft. Capacity

No. 39D

PRICE \$99.00

Shipped direct from Factory, Wilmington, Ohio. Shipping Weight 340 Pounds

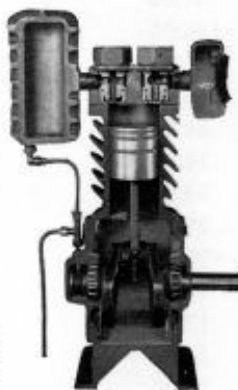
¾ H.P. Repulsion-Induction Motors — 30 Gallon Tank
and all other valuable features of the "Big Boy"



Do Not Overload Air Compressors

Any automatic air compressor that operates more than two-thirds of the time is overloaded — and some day, will suddenly stop, with perhaps a burned-out motor, controller or even bearings, piston rings, etc.

All air compressors are designed and built to the full rated capacity of the motor, based on an intermittent load. If the load is constant the motor will overheat beyond a safe working temperature and usually burn out. Buy compressors large enough for future requirements.



K R W Single Stage Compressors have every valuable feature. Compare them with others.

THE K R W "Little Boy" Compressor is suitable for small garages and filling stations where the service is not heavy. It is identical in design and construction to the Big Boy, except smaller. It is equipped with a ¾ H.P. Leland Repulsion-Induction motor which can be used on either a lighting or power line of 110 or 220 volts (unless special motor is required). The motor is protected by a new combination Thermal relay and pressure switch, against low voltage and overload to prevent it burning out under such conditions. The Tank is copper brazed construction, 30 gallon capacity. A.S.M.E. Tanks will be supplied when necessary for Chicago, Detroit, Ohio, Oregon, California and Canada at \$7.00 extra. The Compressor has a capacity of 3.3 gallons of free air per minute. It is built the same as the cross section shown. New Style Non Pulsating Check Valve, same as used on the "Big Boy" is furnished, although not shown in cut. 25 feet of hose with air chuck are also included.

PUMPING TIME—0 to 150 Pounds—20 Minutes.

MOTOR EXTRAS

50 Cycle A. C. and Direct Current Motors, add \$5.00.
25—30—40 Cycle, add \$10.00.
For Export Boxing, add \$5.00.

IMPORTANT:

Be Sure to Give Correct Motor Specifications — Cycle, Phase and Voltage. Get this Information from your Power Company — Avoid Delay and Unnecessary Expense.



COMPARE!

K R W Tools and Equipment with all
other makes, regardless of price

THEY will be found superior in design and workmanship to most all others, and priced 40 to 60% less. On page 6 we have given the reasons why we can undersell all our competitors. So we say again, K R W Quality must not be measured by our low prices. We manufacture in enormous quantities—most of the items from the raw materials to finished product. Modern and economic production methods together with the fact that we purchase all our materials for

cash and have but very small advertising or selling expense, makes it possible for us to offer this merchandise to Authorized Ford Dealers at the very low prices appearing in this catalog. The comparison list printed below shows at a glance the great difference between K R W prices and those charged by our competitors for similar items. If these figures seem exaggerated, just "shop around" a bit and you'll be convinced. K R W Quality is dependable. K R W prices always lower.

SOME EXAMPLES

ARTICLE	K R W PRICES	OTHER MAKES	YOU SAVE
23 Cubic Ft., 5 H.P. Air Compressor (180 Lb.)	\$255.00	\$430.00 or more	\$175.00
9 1/2 Cubic Ft., 2 H.P. Air Compressor	135.00	280.00 "	145.00
Electric Grease Gun	95.00	135.00 "	40.00
One Day Battery Charger, 15 Battery Cap.	86.00	310.00 "	224.00
Hydraulic Jack, 3 Ton Capacity	25.00	58.00 "	33.00
Hydraulic Press, 40 Ton Capacity	99.00	138.00 "	39.00
Valve Refacing Machine	64.00	98.00 "	34.00
High Pressure Car Washer	125.00	275.00 "	150.00
Brake Shoe Grinder	35.00	90.00 "	55.00
Wrecking Crane, 3 Ton Capacity	65.00	100.00 "	35.00
1/2 H.P. Portable Polisher and Grinder	68.00	160.00 "	92.00
Portable Electric Polisher	28.00	57.00 "	29.00
1/2 H.P. Electric Drill	32.50	48.00 "	15.50
Key Cutting Machine	20.00	44.00 "	24.00
Electric Heated Cleaning Tank	99.00	135.00 "	36.00
Stationary Auto Horses (set 4)	6.00	12.50 "	6.50
Connecting Rod Aligning Jig	12.50	25.00 "	12.50
Welding Outfit	37.50	65.00 "	27.50
Rear Axle Stand	26.00	48.00 "	22.00
Floor Scrubbing Machine	99.00	160.00 "	61.00
Eureka Junior Vacuum Cleaner	12.50	16.50 "	4.00
Apex Washing Machine	59.00	99.50 "	40.50
Hydraulic Lift	180.00	250.00 "	70.00

Similar Savings on more than 350 other items.